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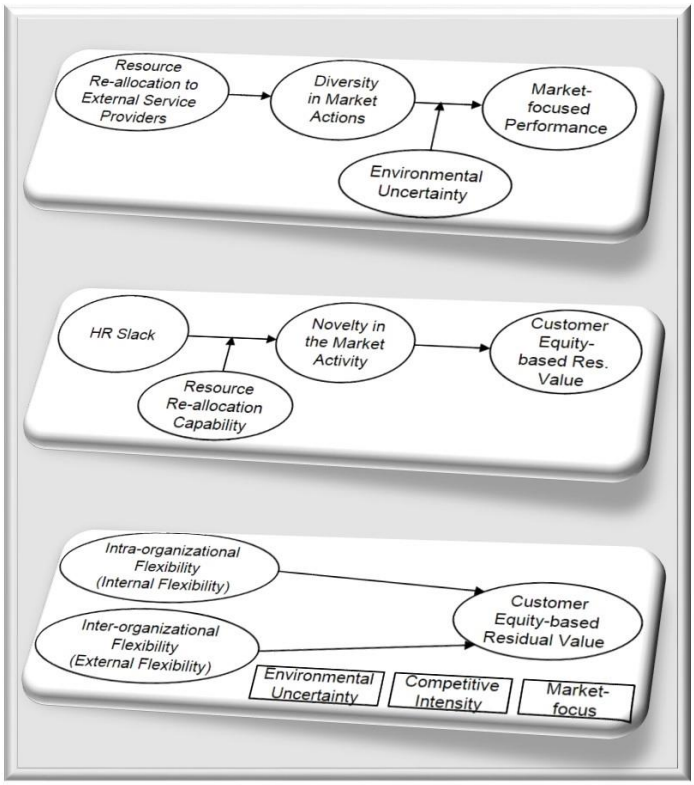

Doctoral Thesis

The Creation, Market Deployment and Performance Relevance of Market-focused Flexibility

Larissa-Rebecca Fleischer

Universiteit van Amsterdam

The Creation, Market Deployment and Performance Relevance of Market-focused Flexibility

Larissa-Rebecca Fleischer

THE CREATION, MARKET DEPLOYMENT AND PERFORMANCE RELEVANCE OF MARKET-FOCUSED FLEXIBILITY

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PROMOTIECOMMISSIE

Promotor:

prof. dr. J.L. Johnson (Washington State University)

Promotiecommissie:

prof. dr. W.M. van Dolen (Universiteit van Amsterdam)
prof. dr. J.H.J.P. Tettero (Universiteit van Amsterdam)
prof. dr. J.B. Cullen (Washington State University)
dr. M.L. van der Veen, UHD (Universiteit van Amsterdam)

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wofür Du den Weg gegangen bist…

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Larissa-Rebecca Fleischer
Riyadh, 2014

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1. Introduction

Where does firms' need for rapid actions and reactions come from?
What are potential remedies for these situations?
Why is flexibility a useful concept?

Firms do not operate in a vacuum (Donaldson 2001). They are confronted with varying degrees of change in their environment. This link between firms and their environment has been highlighted by the scientific discipline of strategic management especially because change disrupts the firm's strategic alignment with its environment (Katz 1970, Monteiro & Macdonald 1996). The nature and pace of change that firms face have significantly altered and they face a considerable increase in the degree, speed, unpredictability and complexity of change (Nadler & Tushman 1995). Various researchers have presented empirical evidence for the increasing level of noise in the business environment (Bettis & Hitt 1995, D'Aveni 1994, Lawrence & Lorsch 1967, McNamara et al. 2003, Wiggins & Ruefli 2005). In fact, in recent years, the global business environment has been characterized by a series of events such as the fall of the dot-com economy, the rise of the emerging markets or the financial crisis which did not only challenge the firms' short-term budget forecasts but also their strategic long-run plans (Sull 2009). Although the disruptive effects of the external environment have long been recognized by the management literature, they remain an object of intense discussions (e.g. Joshi & Campbell 2003, Mintzberg 1980, Nahm et al. 2003, Porter 1980, Pugh & Hickson 1969, Yasai-Ardekani & Haug 1997). Researchers have referred to sudden, substantial, unforeseen, uninsurable, unanticipated, uncertain, volatile and fast-occurring changes in the environmental conditions (Aaker & Mascarenhas 1984 p. 74, Ansoff 1980, Bahrami 1992, Bowman & Hurry 1993, Carlsson 1989, Cyert & March 1963, Duncan 1972, Eppink 1978, Frederickson & Mitchell 1984, Johnson et al. 2003, Krijnen 1979, Priebe 1969). They have characterized the strategic reality as a constant, chronic state of flux where the actions and responses of the market participants continuously vary (e.g. Dickson 1992). In many industries, the competition is characterized by blurred market boundaries, ambiguous and unpredictably shifting competitor structures and changing market players (Eisenhardt & Martin 2000, Menon & Mohanty 2008 p. 5). It has therefore widely been accepted that change in many business environments is turbulent (Bourgeois & Eisenhardt 1988, Dess & Beard 1984, Duncan 1972, Glazer & Weiss 1993, Johnson et al. 2003, Meyer 1982, Volberda 1996, 1998).

The environmental turbulence aggravates the implementation, coordination and effectiveness of marketing strategies (Heide & Weiss 1995). For firms, sudden discontinuities in the rate of the economic growth, in currency exchange rates, governmental actions, customers' attitudes or competitors' behaviors can abound in greater competitive pressures and a potential misfit of their current product and service offers, unfavorable sales deviations, under- or overcapacities, promotional wars, a greater rate of product and process

introduction and obsolescence or, in general, a greater necessity for a higher rate of change in the firms' strategic actions (Bayus & Putsis 1999, Frazelle 1986, Heil & Helsen 2001, Leeflang & Wittink 1996, Nadkarni & Narayanan 2007, Skordoulis 2004 p. 253, Suarez et al. 1995, Thomas 1996). The turbulence may be caused by sudden macroeconomic or political events, entries of new market players, unexpected opportunities, major technological changes or other market shifts. These situations put firms at risk of suffering from altered sales and revenues, pressures on prices, threatened market shares, changing cost compositions and an endangered strategic position which, in turn, influence their cash flows and the expected bottom-line profits (Heide & Weiss 1995). Severe changes in the environment are especially critical because they negatively affect or outpace firms' strategies (Eichengreen & Bayoumi 1999, Johnson et al. 2003, Rana 2007). Volberda (1996 p. 360) even envisioned the risk of firms becoming adrift in turbulent environments as their previously successful business practices are seriously challenged.

For managers, the decision making becomes challenging in these conditions because the available information is subject to a frequent turnover in the general stock of market knowledge and rapidly loses its value (Glazer 1991, Glazer & Weiss 1993). The lack of information about the nature, impact and severity of change and its timing means that firms cannot sufficiently predict further developments (Milliken 1987). While the decision-making becomes increasingly complex, it remains highly time critical (Skordoulis 2004 p. 253). Researchers have observed a substantial increase in uncertainty in the business reality since the 1970s, such as for economic, industry, regulatory, social and technological developments, competitors' behavior and customers' preferences, the level of demand, product prices, mix of products or the availability of resources (Amit & Schoemaker 1993 p. 33, Nadler & Tushman 1995, Sethi & Sethi 1990). Today, marketing and management research widely acknowledges the link between environmental turbulence and the general condition of uncertainty (Aaker & Mascarenhas 1984, Mendelson 2000). While early management thought intended to reduce the interfaces with the external environment in order to minimize this uncertainty (Scott 1998), more recently, researchers have recognized that for most firms it is inevitable to experience change and uncertainties in the environment (e.g., Fredericks 2005). Rather, the aim is to accommodate the environmental effects and effectively deal with the various types of uncertainty. Some managers have tended to respond to the external challenges by accelerating what they have done in the past and by repeating actions that have proven to be effective. These managers must understand, however, that yesterday‘s industry recipes, prescriptions and proven methods do not provide answers to today's challenges anymore (Amit & Schoemaker 1993 p. 41, Koornhof 1998 p. 49, Levitt & March 1988, Staw et al. 1981). The inability to act during sudden market upswings or downturns, on the other hand, could also have extremely damaging effects on the firm as it cannot serve all customers inclined to buy or it becomes unable to defend against aggressive competitors. Unfulfilled customer aspirations have been said to result in foregone sales, dissatisfied customers and decreasing

customer loyalty or jeopardized marketing initiatives (e.g., Hallowell 1996). As a consequence, managers may feel an increased need for rapid actions when they are confronted with smaller decision windows, diminishing streams of opportunities, unpredictable needs for resources or a perceived lack of control (Hayes & Albernathy 1980, Jain 1983, Stevenson & Gumpert 1985). This is because the external turbulence puts serious pressure on the firms' internal ability to decide and act quickly (Bourgeois 1980, Dill 1958). In search of potential responses to uncertainty, several alternative mechanisms such as the avoidance of uncertainty situations (Mascarenhas 1982, Womack et al. 1990), stabilization of demand (Slack 1987), ad-hoc problem solving or improvisation (Aaker & Mascarenhas 1984, Moorman & Miner 1998 p. 698), preventive maintenance (Slack 1987) or flexibility (e.g., Aaker & Mascarenhas 1984, Evans 1991, Upton 1995) have been discussed in literature. Hiding away in a market niche to avoid uncertainty has shown little prospect of success and the waiting-out approach has also not turned out to be a viable strategy because uncertainty has become too compelling to be ignored (Jones & Ostroy 1984 p. 26). A single best-plan-of-action may also be an unrealistic objective for strategy making because it can only provide a temporary relief and firms may be in continuous danger of losing touch with the market or losing ground to their competitors in conditions of unexpected change (Evans 1991, Sanchez 1995 p. 138). As early as 1962, Boguslaw & Porter noted that all systems need a method to handle emergent events and they identified flexibility as an appropriate method. Flexibility has been argued to be a highly sophisticated competitive response to tackle uncertainty (Ansoff 1965, Beach et al. 2000, Johnson et al. 2003, Sanchez 1995, Womack et al. 1990). This is because flexibility enables firms to be adaptable and capable of change (Gustavsson 1984). In today's business reality, it seems that the ability to offer products and services at the lowest possible costs is not the single dominant target for managers who wish to remain competitive (Beach et al. 2000 p. 42).

Firms need to absorb changes such as demand fluctuations economically and must move quicker than their competitors in the market (Gaimon & Singhal 1992). Firms are required to be more flexible than ever in their strategic actions (Eisenhardt 1989). Uncertain environments call for maintained multiple, simultaneous alternatives and expedited decision-making and this is what flexibility enables (Eisenhardt 1989, Evans 1991, Quinn 1986). Firms that want to ensure not only survival (Pasmore 1994) but also continuous development have to engage in flexibility-oriented thinking, i.e., the thinking in alternatives and options. To capture this, the thesis extends Gustavsson's flexibility definition (1984 p. 82) and carefully differentiates it from the process of creating flexibility (see also Aaker & Mascarenhas 1984). To have options available to be flexible in time, it defines flexibility as the ability of firms to be adaptable and capable of change to respond to a wide range of situations and demands as they unfold to satisfy the market expectations without incurring excessive costs, organizational disruptions or performance losses. The value of flexibility abounds in a situation where two firms recognize an unexpected opportunity at the same time but one has the ability to seize the chance faster (D'Aveni et al. 1993).

Flexibility provides a means for rapid responses and facilitates the speed of actions which is especially important when change is forced on the firm (Volberda 1998). A quick response to changes has empirically been found to positively contribute to the alignment of the firm with its environment (Bourgeois & Eisenhardt 1988, Powell 1992). Indeed, for firms, the speed of managers' actions, flexibility and the comfort to change have emerged as some of the most desirable managerial capabilities (Rhinesmith 1993, Ronen 1989). Given that time constitutes an important factor in the business world, flexibility becomes valuable because it enables firms to act or react promptly while minimizing the stress suffered (Mallak 1998). Indeed, flexibility is valuable because of the time sensitivity of information (Glazer & Weiss 1993). Managerial decisions and the implementation of changes have to be made rapidly and the outcomes need to be achieved immediately because the information about the world as it is today may not be characteristic for the world tomorrow while the effects of wrong decisions are felt quickly and often painfully after the decision (Glazer & Weiss 1993). Firms benefit from flexibility because it has been said to help balance dialectical forces (Bahrami 1992), coping with environmental threats (Grewal & Tansuhaj 2001), pulling through threatening events (Anderson 1994) and managing adversity or even chaos (Grewal & Tansuhaj 2001). It also allows actively influencing the environment and generating change in the environment (Evans 1991, Saini & Johnson 2005, Volberda 1997). Firms that perceive the changing situation as an opportunity and develop marketing responses have empirically been shown to improve performance (Dhalla 1980, Rigby 2001, Srinivasan et al. 2005). More recently, researchers have realized the bidirectional value of uncertainty (Amram & Kulatilaka 1999, Amram & Howe 2002, Yeo & Qiu 2002). Not accounting for the upside potential of uncertain situations can be as damaging as ignoring the downward threat. Adaptive firms are able to modify their behaviors in accordance with the situation (Ashford 1986). In flexible firms, managers are able to mitigate losses or capitalize on favorable opportunities for future events because they hold options to build, alter or abandon (Trigeorgis 1993). Flexibility has been said to improve the strategic decision making under environmental uncertainty because it allows firms to take multiple approaches if the initial decision is not the preferred anymore (Quinn 1986). Eccles (1959 p. 25) argued that 'the intellectual concept of strategy naturally leads to the intellectual concept of flexibility'. Koornhof (1998) highlighted the close relation between change, flexibility and strategy and emphasized that any decision regarding flexibility should be made within the parameters of strategy. Flexibility must consequently be understood as a means to facilitate the achievement of strategic goals since it enables firms to handle deviations from the original plan rather than being a goal in itself (Reichwald & Behrbohm 1983). Although Aaker & Mascarenhas (1984) used strategic flexibility with regard to strategic options, it must be noted that flexibility is not per se strategic in nature as it seems to arise from the operative level. Rather, the real issue is the ability to understand and manage flexibility in a strategic way (Suarez et al. 1995). Highlighting the contrast between flexibility and the concept of improvisation, Behrbohm (1985) and Maier (1982) called for the recognition of flexibility

as a permanent preoccupation. Improvisation or ad-hoc problem-solving, in contrast, contain spontaneous one-off actions. Flexibility is neither ad-hoc in nature nor created spontaneously without certain groundwork (Schreyögg & Kliesch-Eberl 2007). Flexibility is beyond knee-jerk reactions. Rather, the value of flexibility lies in the underlying capabilities for which the creation does not necessarily need to directly precede the event. The capabilities can be stored within the firm which makes flexibility an interesting research object and a promising capability for firms that do not want to place themselves at the mercy of external conditions and uncertainty.

1.1. Research Questions and Structural Composition of the Thesis

It has become clear that in today's business environment, flexibility is critical for firms' market-based success. To address this topic, this thesis builds upon the following research logic: Change creates uncertainty and successful firms aim to respond to this uncertainty by creating and maintaining an appropriate level of flexibility. In order to comprehensively portray the concept of flexibility and its effects, this thesis is structured along some meaningful *research questions*. Figure 1 presents the conceptual design of the thesis. The introduction of the thesis has provided insights into the need for and the usefulness of the flexibility concept in the current market reality. It has delivered answers to the questions w*here does firms' need for rapid actions and reactions come from?, what are potential remedies for these situations?* and *why is flexibility a useful concept?* Chapter 2 will present the academic conceptualizations of flexibility and discuss the different research approaches researchers have introduced to define flexibility. The chapter also reviews the state of the art in conceptual and empirical flexibility research and identifies potential shortfalls of previous flexibility research contributions. It provides answers to questions of *how flexibility is defined?* and *what the relevant theoretical and empirical research findings are.* Having identified the need for a strong theoretical anchor, chapter 3 will design a resource-based theoretic framework to carefully embed the flexibility concept into capabilities theory. In doing so, the aspects of becoming and being flexible as well as making use of flexibility can be discussed and elaborated on in order to present a theoretically sound conceptualization. Consistently, this chapter will address the following research questions: *What are the conceptual gaps in flexibility research?* and *how can the concept of flexibility be anchored into a resource- and capability-theory based theoretical framework? What are the processes to create flexibility?* and *how does the conceptualized flexibility framework link to performance?* Building upon the carefully derived theoretic conceptualization of flexibility, three empirical research studies will be presented.

Paper I in chapter 4 accesses the extent to which firms use outsourcing for flexibility reasons. It deals with the creation of flexibility by means of resource reallocation processes to external suppliers. It assesses how firms convert this flexibility into a greater diversity of market actions and how this unfolds market-focused performance outcomes. The paper delivers answers to questions such as *how do firms become and remain flexible?* and *how does outsourcing contribute to this process?* It also presents insights on

how the flexibility created by these firms manifests in the market? and *what are the market-focused performance outcomes of being flexible?* The study focuses on three functional categories of activities that are commonly found in marketing, sales and distribution firms and differentiates them according to their relevance for and their closeness to the customer. An automotive industry data set is used and the empirical findings show that selective outsourcing in market-support and market-facing functions can boost firms' flexibility without sacrificing market-based performance. The paper also provides support for a positive relationship between the business units' diversity in market actions due to resource reallocation processes to external service providers and performance outcomes. It shows that the outsourcing of market-support and market-facing functions indirectly contributes to sales turnover and customer satisfaction via a greater diversity in market actions. The results also show that firms should refrain from outsourcing market-touching functions as this neither drives greater diversity in market actions nor does it lead to significant performance enhancements. The presented model contains a contingency perspective in that it promotes a continued positive path from diversity in market actions to performance also under the adverse effects of environmental uncertainty. With regard to sales turnover and customer satisfaction the interactions of diversity in market actions and environmental uncertainty remain positive although they are smaller than the unmoderated paths which can be related back to the strong effects flexibility unfolds. The study thus delivers evidence that flexible firms are able to capitalize lower decreases or smaller losses while moving to new positions during environmental conditions of uncertainty. This is important as the flexibility that is created by means of selective outsourcing enables firms to maintain positive market-focused performance outcomes despite unfavorable environmental conditions. The paper constitutes one of the few empirical marketing-based flexibility conceptualizations that provide strong evidence for the flexibility-enhancing effect of resource reallocation decisions to external service providers.

In chapter 5, paper II focuses on the means of internally creating flexibility by intentionally accepting excess resources in specific functional areas of the firm. It observes the existence of human resource slack in customer value creating and supporting functions and differentiates between the reactive and proactive mechanisms of using slack resources. The paper provides insights into the mechanisms that transform resources that are in excess of the current demands into firms' ability to rapidly initiate or alter customer value enhancing actions, i.e., flexibility. It challenges the common view that firms are able to make use of their slack resources in every functional location for flexibility creating purposes. Rather, it suggests that slack in certain functional locations is more suitable and accessible for managers to transfer slack resources into market-focused flexibility to quickly initiate or alter market responses while the access to make use of slack in a market-focused way will be denied for other areas. The paper relates internal resource reallocation decisions to external marketing actions to reveal the process of creating and using flexibility in a market-focused way. Based on this, it shows the impact of these decisions and marketing actions on the firm's collective long-term customer relationship value. It

thereby addresses the following main research questions: *In which functional locations does human resource slack act as a source of flexibility? What are the capabilities and mechanisms that enable firms to use flexibility from slack resources in a proactive way? How effectively do the firms that are able to allocate slack to the right locations, i.e., the more flexible ones, translate their slack resources into customer equity-based residual value enhancing market actions?* The empirical findings advise against tolerating slack in customer value supporting functions with regard to both, negative flexibility and also customer equity-based residual value of the firm's customer base outcomes. Firms with human resource slack in customer value creating functions, in contrast, can use the resources that are in excess of the current demands as a source of reactive as well as proactive market-focused flexibility. There is empirical support that slack in customer value creating functions is a valuable investment because it enhances the value of the firm's customer base by enabling the reactive and proactive use of slack resources. The findings of this paper guide managers in identifying and actively managing the critical locations where slack resources unfold flexibility effects and drive customer equity-based firm valuation. This provides them with an empirically substantiated guideline to make value enhancing resource allocation decisions.

In chapter 6, paper III puts different flexibility types into perspective by integrating inter- and intra-organizational types of flexibility into one research model. The model contrasts the long-term customer equity-based residual value implications of financial, human resource, service supply chain and distribution chain flexibility in marketing, sales and distribution functions. It establishes empirical relationships between the intra- and inter-organizational flexibility types and the long-term value of the firm's customer base under different contingency levels of environmental uncertainty, competitive intensity and the firm's market focus. This provides insights into the long-term performance contribution of flexibility under different contingencies. The paper casts light on the research question of *which flexibility types enhance the expected residual value of the firms' customer base under different contingencies?* The link of each flexibility type to performance is empirically tested under three different contingencies in an automotive industry setting. The findings of the structural equation model show that financial flexibility and distribution chain flexibility are customer equity-based residual value enhancing in environments with high competitive intensity and uncertainty. Rather calm environments, in contrast, call for human resource flexibility and service supply chain flexibility. Firms with a pronounced market-focus can increase the value of their customer base by creating and maintaining human resource flexibility. The outcomes of this paper provide a clear and value driven guideline for managers' flexibility-creating resource allocation decisions.

Finally, in chapter 7, the findings of this thesis will be summarized and final conclusions will be drawn. All in all, the thesis provides a comprehensive representation of the flexibility concept from a market-focused view. It presents a concept of how flexibility can be

anchored into a resource-and capability-theory based framework. A research logic is conceptualized where flexibility emerges from organizational capabilities and where flexible firms hold a bundle of capabilities, i.e., flexibility that enables them to adapt proactively or reactively to new information. The thesis emphasizes that the process of organizing and regulating the availability of situation-specific resources and capabilities lies at the core of flexibility. It shows that market-focused flexibility can result from rapid reallocation decisions that are encompassed by effective market deployment actions. Based on this conceptualization, the flexibility creation and deployment processes can be separated from the ultimate performance outcomes. This is important because it allows researchers to individually assess the questions of 'Has flexibility been created?' and 'Has it been deployed effectively?' The thesis establishes an important link to shareholder value relevant performance outcomes such as the customer equity-based residual value of the firm's customer base. This constitutes a meaningful but rare example in management- and marketing-based research contributions. The thesis structure with its strong theoretical basis ensures that the creation, market-effects and performance implications of intra- and inter-organizational flexibility are captured and critically set in contrast with each other. The thesis shows that both, intra- and inter-organizational sources can enhance the firms' flexibility level and the resulting performance outcomes. The thesis integrates different means of flexibility creation and assesses their value for market actions and firm performance under various contingencies. The insights gained from this thesis are important for theory and practice because they provide a value-driven legitimation for the creation and use of flexibility from a market-focused perspective.

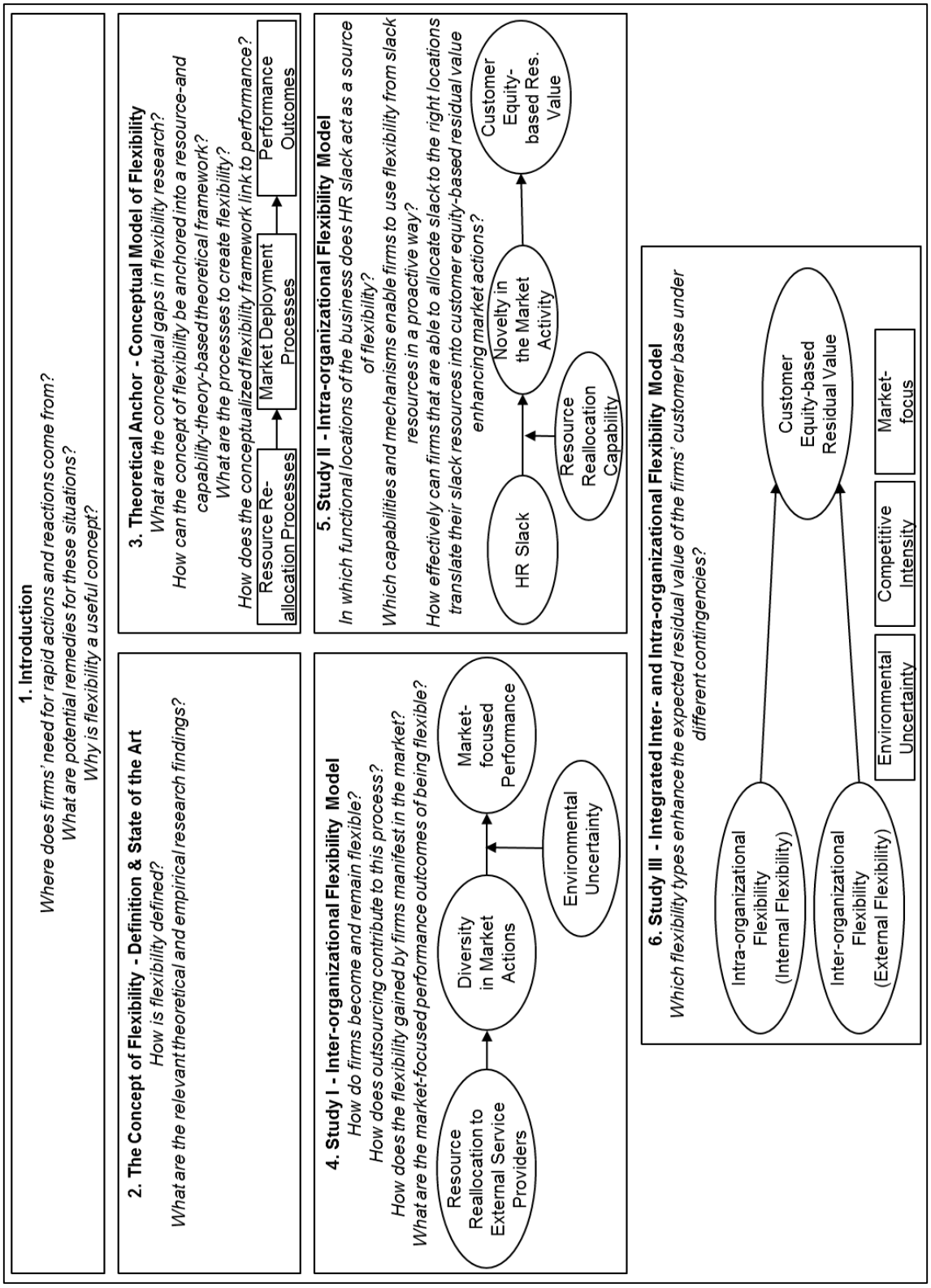

Figure 1: Overall conceptualization of the thesis

2. Literature Review: The Concept of Flexibility

How is flexibility defined?
What are the relevant theoretical and empirical research findings?

2.1. Defining Flexibility

Being universally applicable, the notion of flexibility is widely used in the general language (Genus 1995 p. 287) although Slack (2005) stressed that it has different meanings for different persons. The New Oxford Dictionary of English (1998) defined the term as being 'ready and able to change so as to adapt to different circumstances'. Flexibility has often been used to express doing or producing something other than what was originally intended (Evans 1991 p.73, Golden & Powel 2000 p. 375). Yet, subject to the research discipline, flexibility is presented differently and the numerous definitions reflect the breadth and diversity in the understanding of the concept (Beach et al. 2000, Pettigrew & Whipp 1991). Although a major share of publications on flexibility, especially the early ones, dealt with defining flexibility there is no agreement with respect to a uniform definition (Adler 1988, Sethi & Sethi 1990). Researchers have described flexibility as a nebulous and complex phenomenon (Aaker & Mascarenhas 1984, Adler 1988, DeLeeuw & Volberda 1996, Eppink 1978, Gerwin 1993, Golden & Powel 2000, Volberda 1998). As a consequence, several synonyms for flexibility have been identified by Evans (1991 p. 74). Tomlinson (1976) discussed adaptability while others used versatility, agility, resilience or responsiveness to refer to flexibility (Avison et al. 1995, Bahrami 1992, Bonder 1976, Gustavsson 1984). In order to shed light on the multifaceted meanings of flexibility, Evans (1991 p.74) examined various concepts that are closely related to flexibility and grouped these different 'faces' of flexibility into three dimensions: Firstly, yielding to pressures which denotes the ability to remain viable, secondly being susceptible to modifications which is to remain viable or converting something into another form with minimal friction and lastly having the capacity for new situations or the ability to precipitate new states. Most definitions carry an element of change, described as an act, process or result through which something becomes different or replaces something with something new or different (The New Oxford Dictionary of English 1998, Oxford Advanced Learner's Dictionary 2005). Bolwijn & Klumpe (1990) perceived flexibility as the 'ability to change quickly' and De Toni & Tonchia (2001) mentioned the capability to adapt and change. Evans (1991 p. 74) described a strategic flexible entity as one that has the capability to transform itself and that is susceptible to modifications while Krijnen (1979 p. 64) defined flexibility as the ability to change itself in such a way that it remains viable. For Tomlinson (1976 p. 533) it was the firm's ability 'to change itself, or the way in which it behaves, in order to survive'. The majority of definitions reflects a relational difference between the state before and after some event by introducing certain capabilities as a carrying element. Regardless of the cross-disciplinary application and the different manifestations of the concept, the mutual understanding that flexibility is about possessing an

ability to change or adapt to change constitutes the least common denominator of most approaches (Gustavsson 1984, Slack 1983, 1987).

Sanchez & Mahoney (1996) defined flexibility as the degree to which a firm can use a variety of organizational capabilities. Similarly, Upton (1994) presented flexibility as the capabilities possessed and used to accommodate variability. The capability element has also been adopted and made more accessible by Johnson et al. (2003 p. 77) who defined market-focused strategic flexibility as a set of capabilities and argued that this set consists of resource identification, acquisition, deployment and strategic option identification capabilities. Consistently, a dominant stream of definitions has considered flexibility as an adaptive capacity, ability, capability or repertoire (e.g., Aaker & Mascarenhas 1984, DeLeeuw & Volberda 1996, Dreyer & Grønhaug 2004, Eppink 1978, Evans 1991, Golden & Powell 2000, Grewal & Tansuhaj 2001, Gustavsson 1984, Johnson et al. 2003, Krijnen 1979, Mandelbaum 1978, Volberda 1996). In addition, many definitions specified a further element of flexibility. From a temporal perspective, they regarded flexibility from the point in time when the firm has first been able to act flexibly relative to the occurrence of the change and assigned the terms reactive, pre-emptive or proactive to this. The responsive view has traditionally been the dominant component in flexibility definitions. It is the ability to change quickly in response to changing information and alludes to rapid 'after-the-fact adjustments undertaken once a triggering episode has occurred' (Evans 1991 p. 75). Most definitions have carried at least a responsive flexibility building block such as the capacity for adaptive and effective responses or reactions to change (Ashby 1964, Dreyer & Grønhaug 2004, Eppink 1978, Gupta & Goyal 1989, Ittner & Kogut 1995 p. 155, Mallak 1998, Mandelbaum 1978, Pasmore 1994 p. 4, Reed & Blunsdon 1998, Rosenhead 1989, Wang & Lo 2003 p. 506, Zeller & Robinson 1992 p. 473). Other definitions have set change into an intentional, change-initiating context. In other words, an initiating event is not necessary to provoke flexibility. From the pre-emptive approach, flexibility relates to the ex-ante mode of the activities (Evans 1991 p. 85). With regard to the proactive mode, definitions argued that one can look at flexibility as the ability to intentionally initiate change to create opportunities. These ex ante perspectives have often been discussed in the vein of actively influencing the environment in order to avoid being forced into reactive adjustments (e.g., Krijnen 1979 p. 64, Volberda 1996 p. 362). They follow the policy of 'controlling a situation by making things happen rather than waiting for things to happen and then reacting to them' (Oxford Advanced Learner's Dictionary 2005, proactive). While the reactive view on flexibility has been widespread and well-recognized, in general, the pre-emptive or proactive perspectives have been used to complement the reactive view but hardly appeared in publications as the sole subject of discussion.

Another research stream concentrated on a 'having choices' understanding of flexibility. Various definitions regarded flexibility as the size of the choice set, the scope of options or the degrees of freedom that are ready for use or available at very short notice (Clark

1996, Golden & Powell 2000, Johnson et al. 2003, Marschak & Nelson 1962, Rosenhead et al. 1972, Sanchez 1993, Thompson 1967, Trigeorgis 1993, Upton 1995 p. 76). This flexibility view pivoted around having choices, alternatives or options to 'do things differently or to do something else if the need arises' (Evans 1991 p. 74). Options, in this context, refer to the 'preferential access to future opportunities' (Bowman & Hurry 1993 p. 762). Accordingly, a flexible firm is one that has a bundle of put and call options available to respond to new information (Trigeorgis 1993). For Bowman & Hurry (1993 p. 760) flexibility simply meant to be able to keep options open. Johnson et al. (2003 p. 77) presented flexibility as 'firm's intent and capabilities to generate firm-specific real options for the configuration and reconfiguration of appreciably superior customer value propositions'. In contrast to financial options, these real options are associated with opportunities for real activities such as marketing actions (Black Nembhard et al. 2003, Luenberger 1998).

In addition, flexibility has often been portrayed in terms of the actions that it potentially enables. Presenting an early definition, for Hart (1937) flexibility allowed for the modification of a course of action if the encountered situation significantly differed from the anticipated. This is congruent with Trigeorgis (1996 p. ix) who defined flexibility as the ability to alter a planned course of actions. Flexibility has been perceived as an enabler to revise operating decisions (Kulatilaka 1993). For Mandelbaum (1978) it was the capacity to undertake new actions to meet new circumstances (action flexibility) or the ability to work in spite of changes (state flexibility). Lau (1996 p. 11) captured flexibility as the firm's ability to adjust its objectives and Hayes & Pisano (1994 p. 78) argued that flexibility is the speed of variation of competitive priorities, i.e., the capability to 'switch gears…relatively quickly and with minimal resources.' Johnson et al. (2003 p. 77) emphasized the market-focused component of strategic flexibility and added that this flexibility is about the creation of 'option bundles for various value-creating configurations of products, their positioning and their distribution in various markets'. From a similar market perspective, Johnson (1992) defined flexibility as the ability to immediately or within a short span of time produce something that satisfies the customer. Yet, with regard to the ultimate ends of flexibility, Ramasesh & Jayakunar (1991 p. 464) defined the concept as the ability to generate high net revenues consistently across all conceivable states of nature in which the system may be called upon to function. For Groote (1994 p. 933-934) a flexible firm was one for which 'an increase in the diversity of the environment yields a more desirable change in performance (i.e., higher increase or lower decrease)'. From an economic perspective, Marschak & Nelson (1962) drew on the generated profits to define flexibility: A firm is more flexible if it generates more profits or smaller losses while moving to a new position. Consistently, Upton (1994 p. 73) presented flexibility as the ability to change or react with 'little penalty in time, effort, cost or performance' because it allows the firm to move with minimal transition penalties (see also Slack 1987, Golden & Powell 2000). De Toni & Tonchia (2005 p. 527) emphasized that flexibility can be comprehensively described by the range of possible states, the time needed to move to

another position and the cost incurred to change. Yet, these performance elements in the flexibility definitions must be treated with caution because they conceptually constitute an outcome of being flexible rather than a manifestation of the concept itself.

Other researchers have provided flexibility definitions that considered flexibility as an issue of resource organization and allocation. The aligned deployment of assets and capabilities is emphasized as one of the overarching issues underlying flexibility (Evans 1991). Sethi & Sethi (1990 p. 295) defined manufacturing flexibility as the ability to reconfigure resources. Wright & Snell (1998 p. 757) envisioned flexibility as the 'ability to quickly reconfigure resources and activities in response to environmental demands'. This aspect also appeared in the definition of Johnson et al. (2003) who referred to market-focused strategic flexibility as a set of capabilities that consists of reallocation capabilities such as resource identification, acquisition and deployment capabilities. Buckley & Casson (1998 p. 23) referred to the 'ability to reallocate resources quickly and smoothly in response to change' when defining flexibility. Shimizu & Hitt (2004 p. 45) perceived strategic flexibility as a capability to identify external changes and to quickly commit resources to a new course of action. Notably, they also included the capability to 'recognize and act promptly when it is time to halt or reverse such resource commitments' (Shimizu & Hitt 2004 p. 45). This implies that flexibility seems to rest on resource allocation decisions. This stream of definitions is highly insightful but should be separated from the definitions discussed above. Resource allocation based definitions outlined the actions and processes of how to become flexible while the other streams described what the concept of flexibility is or what it empowers to. Thus, both have their raison d'être but researchers must be aware of the difference. Nevertheless, most researchers have found it easier to describe flexible firms' characteristics, their behavior or the aspired outcomes of being flexible than providing the properties of flexibility in a short and concise definition. Even in the 'core' of the management literature, academics, to date, have not agreed on a mutually accepted flexibility definition. Studies have tended towards more concentrated, highly context-specific definitions, focused on the individual sub-aspects of flexibility with model-specific qualifications and have been influenced by specific managerial situations or problems (Upton 1994). While insightful, this movement has left flexibility research on a rather conceptual level and has slowed the advancement on the level of causal relationships and their comparison. As a result, most definitions could not make allowance for the full reach of the concept and its interrelated aspects in that they concentrated on single sub-elements. In response to this criticism, this thesis draws on Gustavsson's definition (1984 p. 82) as a basis for further refinements. He simply defined flexibility as the ability to be adaptable and capable of change (1984 p. 82). This broad but elegant understanding leaves enough room because flexibility can easily lose some of its attributes the more it is quantified (Koornhof 1998 p. 200). In this definition, the notion flexibility, per se, is temporally neutral and not restricted to foreseen events, one-off actions or unfolding threats or opportunities. It opens a potential for all modes, reactive,

pre-emptive or proactive perspectives and provides a solid foundation for further research.

2.2. The Concept of Flexibility in the Literature

The situational nature of flexibility has been well-recognized (Bahrami 1992, Evans 1991, Golden & Powel 2000, Groote 1994). As a result, the conceptualizations have diverged into a number of individual flexibility concepts with context-specific meanings, definitions and dimensions (Evans 1991). Indeed, Upton (1994) identified the fact that many definitions are colored by specific managerial situations as the main driver of conceptual inconsistencies. As early as 1971, Ansoff & Brandenburg described the multifaceted nature of the highly abstract flexibility construct and several other studies have emphasized the polymorphous nature of the construct (e.g., Carlsson 1989, De Toni & Tonchia 2005, Evans 1991, Teece et al. 1997, Volberda 1996, Young-Ybarra & Wiersema 1999). More precisely, flexibility occurs in numerous distinct forms so that several partly overlapping classification frameworks have been presented in literature in order to cope with the multiple faces of flexibility. Given the various different meanings and conceptualizations in literature (Grewal & Tansuhaj 2001), Upton (1994) suggested to regard flexibility as a result of different dimensions and Gerwin (1993 p. 398) considered flexibility as a firm-wide variable which could be split into different sub-dimensions. To take this into account, flexibility has been described as multidimensional (Suarez et al. 1995), in other words, having more than one constituent element. In general, scholars tended to specify flexibility as a single second-order construct with various sub-dimensions subsumed on the first-order level (e.g., Rosenhead 1978: adjustment and use flexibility; Sanchez 1995: coordination flexibility and resource flexibility; Anand & Ward 2004, Upton 1994: mobility and range flexibility; Mandelbaum 1978: state and action flexibility; Slack 1987: response and range flexibility). By using an interview technique, Slack (2005 p. 1194) disclosed two senses of flexibility and thereby confirmed the two dimensions presented in his earlier paper in 1983. Accordingly, managers perceived flexibility as the range of states or behaviors that their firm is able to adopt or is capable of doing. As this dimension, by itself, would not capture the full meaning of flexibility, response flexibility was introduced by Slack (2005) as a second dimension. It describes the ease of moving from one state to the other in terms of time, cost and disruptions to capture the friction elements of flexibility that could constrain the system's responsiveness. Flexibility has also been differentiated according to aspects of time and speed. Managers, it has been argued, have short- and long-term considerations and act within different time horizons (Andersson & Mattsson 2010) and this has been reflected in some flexibility conceptualizations (DeLeeuw & Volberda 1996). From the temporal point of view, classifications have touched upon the length of time it takes to activate the flexibility potential of a firm for a specific situation (Gerwin 1993, Koornhof 2001, Mandelbaum 1978) and the point in time flexibility is activated relative to the event (before- or after-the-fact, Evans 1991). Various researchers have discussed strategic, tactic and operational flexibility in this con-

text to derive operational, tactical and strategic flexibility from the temporal short-, medium- and long-term considerations (e.g., Bowman & Hurry 1993, Buckley 1997, Carlsson 1989, Eppink 1978, Gustavsson 1984, Hayes & Pisano 1994, Johnson et al. 2003, Upton 1994). Moreover, some researchers have differentiated flexibility according to the location where it arises, i.e., whether it is created internally (internal or intra-organizational flexibility) or based on organizational ties at the interface to the task environment (external or inter-organizational flexibility). Flexibility dimensions have further been distinguished with respect to the functional area where the effects unfold. Aaker & Mascarenhas (1984 p. 81) provided examples that flexibility could be based upon any functional area. Indeed, functional-oriented papers have accounted for a significant share in flexibility literature and have been more common than papers that looked at flexibility of the general business. Given these multiple faces of flexibility, several researchers have presented broad models that incorporated various aspects. Golden & Powel (2000 p. 373), for instance, extended Evan's (1991) two-dimensional concept and defined flexibility as the capacity to adapt across four dimensions: 1. temporal (i.e., time to adapt; also presented by Eppink 1978, Gustavsson 1984, Upton 1994), 2. range (i.e., number of options; consistent with Carlsson 1989, Krijnen 1979), 3. intention (offensive or defensive; according to Avison et al. 1995, Evans 1991) and 4. focus (gained internally or externally; see also Ansoff 1965). This brief conceptual review showed that firms must recognize, coordinate and lever different aspects of flexibility in order to manage flexibility appropriately (Nadler & Shaw 1995 p.13).

2.3. Being Flexible: Theoretical and Empirical Findings

Literature has dealt with the antecedents and drivers of flexibility, investigated the paths towards flexibility, observed the necessary conditions and looked at the effects of flexibility within different outcome dimensions. The fact that flexibility has been presented as a dependent, independent and moderating variable mirrors the versatility of research concepts available in academic literature. Many contingency researchers perceived flexibility as a dependent variable. Matthyssens et al. (2005) highlighted the importance of organizational preconditions which they characterized as capability configurations that shape strategic flexibility. Organizational attributes or facilitators of flexibility such as firm size (Fiegenbaum & Karnani 1991), organizational structure (Dastnalchian & Blyton 1998, Krijnen 1979), control mechanisms (Reed & Blunsdon 1998), information systems (Golden & Powel 2000), organizational culture and the learning system (Verdú-Jover et al. 2006), complexity of the strategic scheme (Nadkarni & Narayana 2007), the specific decision making structure and the degree of formalization (Krijnen 1979) have been used as antecedents to explain flexibility in a firm. Beach et al. (2000) described flexibility as a result of various enabling variables. Johnson et al. (2003 p. 81) conceptually proposed that the market-driving element of customer or competitor orientation, respectively, would result in higher market-focused strategic flexibility levels than it would for the market-driven element of the respective orientation in turbulent environments. Under low environmental uncertainty firms adopting a market-driving perspective would still require

a high level of market-focused strategic flexibility while the market-driven approach would call for significantly lower levels.

Given uncertain environmental conditions, flexibility has often been described as a means of accommodating uncertainty. Therefore, several researchers have argued for its performance relevance by attributing reduced uncertainty about the volatility of future revenues and earnings to it (Lau 1996, Lund 1998, Volberda 1998). Interpreted as an independent variable, it has been used to discriminate between high and low performing firms (Koornhof 1998). Strategic flexibility has been argued to be a source of competitive advantage and performance which is mainly attributable to these firms' ability to deal with instability in the environment (Aaker & Mascarenhas 1984, Das & Elango 1995, Dreyer & Grønhaug 2004, Lau 1996, Matusik & Hill 1998). The relationship between strategic flexibility and performance and other competitive dynamics has empirically been tested predominantly in manufacturing research (Ettlie & Penner-Hahn 1994, Fiegenbaum & Karnani 1991, Fine & Pappu 1988, Gaimon 1988, Grewal & Tansuhaj 2001, Jaikumar 1986, Saini & Johnson 2005, Slack 1988, Suarez et al. 1995, Swamidass & Newell 1987, Tombak 1988, Tombak & de Meyer 1988). Various aspects of performance improvements such as earnings growth, market share, sales growth, customer satisfaction, quality, profitability, costs, productivity or strategic responses have been analyzed. Tuominen et al. (2004) found a positive relation between adaptability, stated as firms' customer and technology linking, their employees' commitment and their global market monitoring skills and firms' innovativeness used as a performance variable. They concluded that firms which want to survive in turbulent environments could focus on establishing and maintaining close customer relationships. Most researchers used flexibility or adaptability as an independent variable to explain performance. However, different approaches towards the influence of flexibility on firm performance have emerged. One camp of researchers has advocated a direct relationship where an increase in flexibility enhances performance. The empirical findings for this approach are mixed however. In a manufacturing context, Swamidass & Newell (1987) tested the implications of production flexibility on a combined growth and financial performance measure and found it to be positive and significant. Fiegenbaum & Karnani (1991) found empirical evidence that output flexibility was positively related to competitive advantage which was especially true for industries that faced high fluctuations in demand. Powell (1992) empirically supported the hypothesis that holding an adaptive capability could be a source of competitive advantage. Singh (2003) empirically revealed a positive relation between proactive behavior in manufacturing and business performance. Moreover, a positive relationship between firms that held the ability to strategically change and their survival was established by Zuniga-Vicent & Vicente-Lorente (2006). Sanchez (1995) attributed competitive advantages largely to the higher strategic flexibility that some firms possessed in dynamic product markets so that they were able to outmaneuver or neutralize competitive threats and exploit opportunities. Still, ambiguity remains as to whether the flexibility capabilities to handle uncertainty directly give rise to competitive advantage (Beach et al. 2000).

Whereas in 1979, Krijnen (p. 63) still regarded flexibility as a separate economic goal anchored at the same level as profitability, more recently, it has not been perceived as an end in itself anymore but has rather been considered as a facilitator for or means of achieving firms' business objectives and performance outcomes (Slack 2005 p. 1195, Johnson et al. 2003 p. 83). Flexibility cannot be understood as an independent objective of the business or an end in itself (Meffert 1985). It is a necessary condition which is expected to positively impact other objectives as managers do not perceive their firms as selling flexibility (Slack 2005). Rather, managers must recognize the merits that flexibility offers them and their customers, such as product availability, a customized range of products, more reliable delivery timings, higher productivity and better resource and process utilization (Slack 2005 p. 1195). Some researchers have consequently hesitated to conceptually assign performance relevance to flexibility directly. Pagell & Krause (2004) analyzed the widely accepted theoretical assumption that firms which respond to an increase in uncertainty by increasing their operational flexibility would experience enhanced performance. Firstly, they did not find a direct relationship between the level of flexibility and the degree of environmental uncertainty. Importantly, they also criticized the often hypothesized positive link from operational flexibility to performance because it would imply that low levels of flexibility would lead to low performance. More specifically, Suarez et al. (1991) identified the assumption that more flexibility is always better as a common weakness of many studies because it contravenes models in which, from a certain level, flexibility would make firms worse off (Fine & Pappu 1988, Gaimon 1988). As a consequence, Pagell & Krause (2004) called for the use of moderated models as a sine qua non so that there would be a positive path from flexibility to performance under high uncertainty and a negative path given low uncertainty. Pagell & Krause (2004) concluded noting that there is much more complexity in the relationship between uncertainty, flexibility and performance than traditionally assumed in many empirical models. Adding to the controversial discussion, some publications theorized about a negative relationship between flexibility and productivity. According to Gustavsson's findings (1984), most of his individual sub-dimensions of flexibility (component flexibilities) were inversely related to productivity. In contrast, Chung & Chen (1989) and Dreyer & Grønhaug (2004) empirically found a weak but positive link between flexibility and productivity. The different time horizons that have been examined by researchers could provide an explication for these mixed findings in the relationship between flexibility and performance. In fact, the generation of flexibility ties up resources in the short-term that may only become effective in the medium-term so that a loss in short-term profits could result (Johnson et al. 2003). Moreover, an actual flexibility portfolio which would exceed the required flexibility would be inefficient because the waste could cause losses in profitability (Volberda 1998). Aaker & Mascarenhas (1984) agreed by stating that there is a cost in holding underused assets for reasons that may never materialize. As some parts of flexibility may never become relevant, it is the management's task to find a balance between the level of flexibility and the costs incurred through the deviated use of resources. Kulatilaka &

Marks (1988 p. 578) indicated that 'the strategic value of flexibility can, under some conditions, be negative' e.g., under limited uncertainty. In stable environmental conditions with durable routines, flexibility has been said not to pay-off (Lawrence & Lorsch 1967). This negative value proposition conforms with the performance scenario Johnson et al. (2003 p. 84-85) described for flexible firms under low turbulence: In the short-run they are expected to perform negatively while in the long-run the negative value of flexibility should at least be neutralized by the benefits of pre-emptive option generation attempts. The costs of flexibility become visible in the fact that firms which followed a strategy built on environmental predictions that have proven right would outperform firms that have invested in flexibility (Skordoulis 2004). Still, the discriminating power of flexibility holds in the medium- to long-term where the investments in flexibility pay-off on average. Apparently, an increase in flexibility does not generally imply a more economical solution (Lenz 1992). Due to the weak empirical evidence of the direct relationship, researchers have started to apply a contingency perspective by means of a moderated relationship between flexibility and performance (Anand & Ward 2004, Nadkarni & Narayanan 2007, Suarez et al. 2003, Verdú-Jover et al. 2005). The assumption that flexibility is not beneficial in all settings is in a line with the situational nature of the concept (Bahrami 1992, Evans 1991). In accordance with the suggestions of Pagell & Krause (2004), the positive relation to performance has been assumed to be contingent on the environmental circumstances, the firm's strategy, its structure or other contingency factors. For Beach et al. (2000) there has been no doubt about a link between uncertainty and flexibility and they suggested a moderating relationship rather than a direct connection. There has been evidence that the flexibility mix derived from the strategy must match the market requirements in order to unfold positive performance implications (Berry & Cooper 1999, Sawhney & Piper 2002). Fiegenbaum & Karani (1991) tested both, a direct and a moderated relationship and found evidence only for a positive influence of flexibility in the presence of certain firm attributes. Voola & Muthaly (2005) hypothesized both, a direct and an indirect impact of strategic flexibility on performance moderated by market orientation and found evidence only for the indirect effect where strategic flexibility drove market orientation which in turn, led to performance effects. Nadkarni & Narayanan (2007) integrated strategic flexibility and industry-velocity literature and found a positive relationship between strategic flexibility and performance given a high industry clock-speed and a negative relationship under low speed. With regard to an economic crisis context, Grewal & Tansuhaj (2001) stated that the appropriate form of strategic flexibility during these conditions can only be reactive in nature. They argued that proactive offensive actions would be rather unlikely considering the unexpected nature of a crisis. The researchers tested reactive strategic flexibility on different economic scenarios and established a significant negative link between reactive strategic flexibility and performance under normal conditions. They hypothesized and obtained a positive relationship when strategic flexibility was related to after crisis performance. They attributed their findings to the fact that building flexibility capabilities has a cost that is not outweighed by the benefits of flexibility during the normal course of operations. Including a contingency

factor into their crisis scenario, strategic flexibility was found to be beneficial for performance when competitive intensity was high but demand and technological uncertainty weakened the positive relationship. Dreyer & Grønhaug's model (2004) allowed for the consideration of flexibility's multidimensional facets. They found evidence that flexibility enabled the achievement of continued competitive advantage in highly uncertain conditions for firms that developed situation-specific flexibility types and that these firms did not incur productivity losses. Given the importance researchers have attributed to both, strategic flexibility and market orientation, Grewal & Tansuhaj (2001) empirically revealed the complementarity between these two concepts. In conditions of high demand or technological uncertainty market orientation was beneficial whereas in highly competitive circumstances strategic flexibility was valuable. The researchers stressed that conflicts of resource allocation among these two capabilities could arise. Anand & Ward (2004) tested the impact of different flexibility dimensions on performance moderated by the unpredictability and volatility of the environment. They interpreted the level of firm's emphasis given to 1.) mobility flexibility and 2.) range flexibility as firms' strategic orientation. They assumed that in volatile but predictable circumstances, firms would require a rapid reaction flexibility type to adjust the capacity, make incremental parameter changes in response to changing market needs or quickly launch modified products. Consistently, the researchers found support for a positive link between range flexibility and performance. On the contrary, firms must be able to re-maneuver their capabilities in unpredictable environments, i.e., in situations that cannot be foreseen. In these circumstances (significant interaction between mobility and unpredictability), mobility flexibility had a positive influence on performance measured as market share and sales growth. From this, it could be concluded that a fit between the environment and the flexibility strategy chosen paid-off in performance. Notably, they also found that this fit (moderation effect) accounted for more variance in the model than flexibility itself. For Oktemgil & Greenly (1997) adaptability abounded in the enhanced development of marketing activities, more rapid responses than competitors and the pursuit of new product-market opportunities so that the researchers expected performance improvements. They empirically showed that highly adaptive firms had a higher performance in terms of sales growth and market share and that these firms operated in turbulent environments and had a higher market growth. Moreover, the highly adaptive firms had also been found to exhibit greater market orientation but they did not exhibit more slack resources. Oktemgil & Greenly (1997) concluded that the marketing activities, the speed of implementation and the level of market diversification of highly adaptive firms enabled them to influence the external environment (e.g., consumer buying behavior and competitive rivalry). In the airline industry, Cheng & Kessner (1997) compared externally-oriented firms to those with an internal-orientation and found that the different patterns of resource allocation depend on firms' strategic orientation. They revealed that contingent on the resource allocation pattern (i.e., their strategic orientation) slack affected firm's environmental responses differently. Internal-oriented firms used their resources for efficiency enhancing activities e.g., to construct efficient facilities, cost control and the maintenance of operational efficiency.

The more firms were externally-oriented, however, the more they allocated towards activities that improved their opportunity exploitation abilities. These firms targeted product innovation and development, aggressive advertising and promotion and sales activities. In uncertain environments, externally-oriented firms proactively applied slack, introduced new products and expanded markets to exploit market opportunities. In a reactive way, however, internally-oriented firms employed slack resources to buffer against the external environment in order to maintain their present state. For the significant relationship between slack resources and firm's environmental response, Cheng & Kessner (1997) empirically confirmed a positive interaction between slack and the resource allocation towards market effectiveness. They revealed a significant negative link between slack and environmental responses when being moderated by the resource allocation pattern that was driven by internal efficiency concerns. They subdivided slack into available, potential and recoverable slack but found support only for the first two types in that externally-oriented firms had greater available slack while internally-oriented firms relied more on recoverable slack.

This literature review shed light on the multitude of flexibility research findings. Specifically, it provided insights into the heterogeneous and fragmented nature of research approaches that have been applied to capture the flexibility phenomenon. Surprisingly, it has become apparent that the academic flexibility discussion has been conducted without embedding the concept into the foundation of a theoretic research approach. The next chapter will outline the gaps in flexibility research and carefully anchor the flexibility concept into a resource-and capability-theory-based theoretic framework. This is important because despite the meaningful theoretic and empirical findings, flexibility research still awaits a sound theoretical grounding.

3. Flexibility within a Theoretical Anchor

What are the conceptual gaps in flexibility research?
How can the concept of flexibility be anchored into a resource-and capability-theory-based theoretical framework?
What are the processes to create flexibility?
How does the conceptualized flexibility framework link to performance?

The concept of flexibility can be said to be well-researched and widely approached from diverse disciplines with regard to the vast amount of conceptualizations literature has spawned. Nevertheless, it has been under-researched since the meaning of flexibility and its impact on the functioning of the firm remains ambiguous (DeLeeuw & Volberda 1996). Recent flexibility literature has widely agreed that flexible firms draw on resources and capabilities (e.g., Kogut & Kulatilaka 2001). Although frequently cited, the accompanying capabilities themselves remain unspecified and vague. Grewal & Tansuhaj (2001 p. 78) thus legitimately asked which capabilities firms must develop to manage challenging events because literature on strategic flexibility lacks deeper insights. Aaker & Mascarenhas (1984 p. 75) revealed a lack of frameworks and procedures in academic literature that deal with the creation of flexibility. Upton (1994) described flexibility as a critical competitive capability and emphasized that the confusion and ambiguity surrounding the concept impeded its effective management. Suarez et al. (1991) highlighted the little agreement not only with regard to defining flexibility but more importantly for achieving flexibility. To date, this ambiguity has not considerably changed. Little is known about the methods and processes of delivering flexibility (Beach et al. 2000 p. 55). With respect to the abstract nature of flexibility, literature has often been criticized for its failure to present more concrete advice for practical application. Research on flexibility lacks an in-depth understanding of the processes through which flexibility is created. In fact, the management of flexibility remains poorly understood (Zammuto & O'Connor 1992). Having identified this research gap, within a first step this chapter will unfold a resource- and capability-theory-based framework to carefully anchor the concept of flexibility.

Firms use resources and capabilities controlled by them to execute their strategies (Barney 1991). Strategy evolves from and it also generates further resources and capabilities (Bowman & Hurry 1993). Rumelt (1984 p. 569) interpreted strategy as a 'constant search for ways in which the firm's unique resources can be redeployed in changing circumstances'. Therefore, Zuniga-Vicente & Vicente-Lorente (2006) posited that strategy is rooted in the firm's capabilities which have to be created internally. The allocation of resources has thus been a familiar idea in strategy research (Bowman & Hurry 1993 p. 772). Some essential elements of strategy have emerged in researchers' pervious definitions of flexibility, such as the ability to engage in changing competitive actions (D'Aveni 1994, Eisenhardt & Martin 2000, Nadkarni & Narayanan 2007). Kanter (1982 p. 39) ascribed flexibility to the ability to quickly assemble particular resources and develop the

capacity to deal with them. More recently, researchers have been in agreement that investing in flexibility is based on resource allocation decisions and several definitions directly or implicitly referred to flexibility as a strategic resource allocation and deployment decision (e.g., Aaker & Mascarenhas 1984, Buckley 1997, Grewal & Tansuhaj 2001, Johnson et al. 2003, Koornhof 1998, Krijnen 1979). However, this has often resulted in the misleading conclusion that flexibility is defined as the ability to allocate resources. This thesis argues that researchers must carefully separate the concept's definition from the internal processes of creating flexibility. Moreover, researchers should not consider flexibility outside the realm of strategy because the investment in flexibility appears to be a strategic resource allocation decision.

The possession of resources and capabilities and their deployment has been found to be relevant for achieving superior product-market combinations by means of market actions (e.g. Dierickx & Cool 1989, Katila & Shane 2005). Within this resource-based logic, firms have been conceptualized as bundles of resources and capabilities that are heterogeneously distributed among organizations in the market (Amit & Schoemaker 1993, Eisenhardt & Martin 2000, Penrose 1959, Wernerfelt 1984). Consistently, the resource-based theory (RBT) has ascribed performance differences to the variance in firms' resource portfolios (Barney 1991, Fredericks 2005 p. 557, Penrose 1959, Wernerfelt 1984). The firms' management must deploy the available resources systematically to create value and deliver superior value propositions to their customers (Barney 1991, Connor 1991, Wernerfelt 1984). Firms must provide product and/ or service advantages that are appreciated by customers or process advantages that result in lower prices in order to create value for customers (Bowman & Ambrosini 2003, Hunt & Morgan 1995). Therefore, the fundamental task of managers is to accumulate relevant resources and capabilities and bundle them into productive combinations that yield superior performance (Barney 1997, Penrose 1959, Wernerfelt 1984). Nevertheless, resources and operating capabilities are shaped by the firm's environment and are subject to change over time so that their value can only be temporal in nature (Amit & Schoemaker 1993, Miller & Shamsie 1996). With regard to the contingent value of resources, Miller & Shamsie (1996) empirically showed the environment's impact on the value creation potential of resources in changing environmental conditions (similar findings presented by Brush & Artz 1999, Coff 2002, Eddleston et al. 2008). The competitive advantage provided by resources quickly erodes in turbulent environments when resources and capabilities are not protected or upgraded and firms' isolating mechanisms may only be a short-term remedy but no long-term solution (Bettis & Hitt 1995, Dierickx & Cool 1989). Researchers have consequently argued that resources, capabilities and the underlying strategies to gain competitive advantage in turbulent markets significantly differ from those in calm environments (Bowman & Hurry 1993, Kogut & Kulatilaka 2001). Leaving resources unchanged, the firm would lose the ability to engage in effective market activities to meet or exceed customer expectations. Interestingly, the managers' focus seems to shift signif-

icantly in challenging environments as the external conditions have an impact on the potential value of their resources and capabilities (Sirmon et al. 2007 p. 278). The concern is not anymore with the resource inimitability and non-substitutability as over time both traditional foundations of sustainable competitive advantage will already be knocked out by the turbulent environment. Thus, in these environments, the strategic logic seems to be opportunity and change rather than continued leverage (Eisenhardt & Martin 2000 p. 1118). It follows that it is more realistic to assume short-term competitive advantages with a competitive situation that is characterized by managers creating series of temporary advantages (Eisenhardt & Martin 2000 p. 1118). RBT, as a static theory (Barney 2001a,b, Priem & Butler 2001), has traditionally focused on competitive advantage in more stable environments so that it reaches its boundary condition under conditions of rapid and unpredictable change (Eisenhardt & Martin 2000 p. 1105). RBT seems to be unable to explain the timely responsiveness, effective coordination and redeployment of competences over time (Teece & Pisano 1994 p. 538). In fact, RBT does not make allowance for handling the strategic role of time that has especially been emphasized with regard to flexibility (Eisenhardt & Martin 2000 p. 1118). Traditional RBT thinking lacks a clear conceptual model to incorporate the evolution of resources and capabilities and their use to ensure competitive advantage over time (Helfat & Peteraf 2003 p. 997-998). Therefore, RBT on its own cannot constitute a basis for further flexibility reasoning because there seems to be value in situation-specific resource and capability endowments. It also follows that there must be even more value in the capability to reconfigure the firm's structure of assets (Amit & Schoemaker 1993). In fact, managers' task of resource allocation cannot be an initial one-off undertaking. During turbulent times, managers face continued 'when, where and how often' decisions to adjust their resource deployment accordingly (Fombrun & Ginsberg 1990). Managers are required to quickly commit resources to new courses of action and halt or reverse such resource commitments in time (Shimizu & Hitt 2004 p. 45). This is because firms that aim to continuously offer valuable customer propositions must be able to create capabilities to avert threats and capitalize on temporary market opportunities (Ulrich & Smallwood 2004, Ray et al. 2004 p. 26). A match between customer needs and the organizational capabilities to deliver superior value propositions in time has consequently become a well-recognized element of market success (Rindfleisch & Moorman 2003, Zeithaml 2000).

Organizational capabilities are defined as the ability 'to perform a coordinated set of tasks' by drawing on the firm's resource base (Helfat & Peteraf 2003 p. 999). They are inextricably linked to acting or practicing in order to coordinate and perform operational activities and accomplish the aims (Helfat et al. 2007 p. 4, Schreyögg & Kliesch-Eberl 2007 p. 915, Zollo & Winter 2002). Firms create and maintain diverse types and degrees of capabilities, among others especially managerial, distribution or marketing capabilities (Oktemgil & Greenley 1997, Spanos & Lioukas 2001). Capabilities constitute a distinct and superior way of composing tangible resources and tacit, information-based elements

that are embedded in and exercised through organizational processes (Amit & Schoemaker 1993, Schreyögg & Kliesch-Eberl 2007). Teece et al. (1997 p. 518) perceived these processes as a 'pattern of current practice and learning' that are used to assemble resources. Firms develop capabilities through complex resource interactions and knowledge generation and they gradually integrate them into their activities (e.g., Amit & Schoemaker 1993, Day 1994, Fiol & Lyles 1985, Simon 1969, Sinkula 1994, Slater & Narver 1995, Smith et al. 2005, Subramaniam & Youndt 2005). Hence, capabilities represent a reliable problem-solving architecture comprised of approved linking and combining rules (Schreyögg & Kliesch-Eberl 2007 p. 915). In brief, capabilities are the glue that brings resources together and ensures their advantageous deployment (Day 1994 p. 38). Yet, change in a turbulent environment can be competence destroying at the level of the operating capabilities (Winter 2003). The external threats are directly linked to the internal challenge of unstable capabilities. To rely on the given prespecified set of capabilities and linking resources becomes a bold venture as it is likely to result in locked organizational capabilities (Schreyögg & Kliesch-Eberl 2007). In response to the ever changing conditions, resources must regularly be added, recombined and dropped and capabilities must be refreshed to maintain competitive advantage (Ambrosini & Bowman 2009 p. 35, Galunic & Rodan 1998). These characteristics have been attributed to dynamic capabilities. The notion 'dynamic' does not imply that these capabilities themselves change over time but rather relates to their strength to dynamically renew the ordinary capabilities (Teece et al. 1997 p. 515). Thus, strategic management's task is to appropriately create, extend or modify internal and external organizational skills, resources and the functional competences toward the changing environment (Helfat et al. 2007, Teece & Pisano 1994 p. 537). Dynamic capabilities are change oriented (Winter 2003 p. 992, Zahra & George 2002). They represent 'the capacity of an organization to purposefully create, extend or modify its resource base' (Helfat et al. 2007 p. 1). They are the firm's capacity to transform the ordinary capabilities in order to achieve altered bundles of strategic resources, such as marketing resources like customer relationships, brands, marketing expertise, sales force effectiveness, channel relationships, dealer loyalty or customer trust e.g., Helfat et al. 2007, Teece et al. 1997, Teece 2000, 2007, Winter 2003, Zahra et al. 2006). They modify and refresh the capability and resource base and allow for a repeated, reliable performance of activities (Helfat & Peteraf 2003, Sirmon & Hitt 2003). They are future oriented in that they involve the preparation of the resource base for tomorrow's challenges whereas operating capabilities focus on competing today (Ambrosini & Bowman 2009 p. 34). They represent the firm's capacity to create new resources and to renew or alter its resource base in quickly changing environments (Teece et al. 1997). 'Dynamic capabilities thus are the organizational and strategic routines by which firms achieve new resource configurations as markets emerge, collide, split, evolve, and die' (Eisenhardt & Martin 2000 p. 1107). Effective dynamic capabilities allow firms to utilize their resources to restore congruence with the environmental situation (Menon & Mohanty 2008 p. 1). From this, the small but significant difference between the traditional resource-based reasoning and capability theory becomes apparent. The central argument of the former is that

the firms' ability to cope with external environments derives from how it *configures* while the latter focuses on how it *reconfigures* itself to sustain a rent stream.

Schreyögg & Kliesch-Eberl (2007) accentuated that one should not misconceive dynamic capabilities as a solution for firms' perfect dynamization. They argued that this would indicate spontaneous case-by-case acting and highly improvisational and fragile processes. To delineate from one-time spontaneous reactions, ad hoc problem-solving, luck or accidents, several researchers have emphasized that dynamic capabilities are structured, persistent and habitualized action patterns that are used intentionally, deliberately and systematically (Ambrosini & Bowman 2009 p. 33, Barreto 2010, Helfat et al. 2007, Schreyögg & Kliesch-Eberl 2007 p. 915, Zollo & Winter 2002 p. 340). The idea of full dynamization is therefore inconsistent with the concept of capability building since the strengths of dynamic capabilities rest upon a proven, repeatable and reliable pattern which makes them an inherently stable phenomenon (Ambrosini & Bowman 2009, Helfat & Peteraf 2003, Schreyögg & Kliesch-Eberl 2007 p. 921). According to Schreyögg & Kliesch-Eberl (2007), dynamic capabilities handle both the necessary risk compensation for outdated capabilities (dynamization) and the required reliable problem-solving pattern (capability evolvement). Importantly, dynamic capabilities are not valuable themselves so they cannot be a strategic resource in the RBT sense and thus a direct source of competitive advantage (Eisenhardt & Martin 2000 p. 1117). Instead, they indirectly affect performance outcomes by transforming the ordinary capabilities. This means that the resource configurations created by dynamic capabilities are valuable and rare (Dreyer & Grønhaug 2004 p. 492, Eisenhardt & Martin 2000 p. 1106). Value is thus a derivative and resides in the output of the ordinary capabilities that dynamic capabilities have acted upon. Performance differences arise from different capability qualities and the timing of their use. Hence, firms must use 'dynamic capabilities sooner, more astutely, more fortuitously than the competition' (Eisenhardt & Martin 2000 p. 1117). In doing so, the transformed resources and capabilities can generate superior value propositions for customers.

Under uncertainty, the incompleteness of information can easily result in uninformed decision-making and thus an ineffective and inefficient reorganization of scarce resources and capabilities (Koornhof 1998 p. 5). To handle this, firms need a sophisticated approach and strategies built on dynamic capabilities may be a promising approach. Yet, in the same vein, flexibility has been argued to be a promising ability to deal with these conditions. Interestingly, the concept of flexibility and dynamic capabilities have both independently been postulated to be a sophisticated approach. It appears as if the topic of turbulent environments has been approached from two different perspectives and that flexibility research has not fully taken on the evolving ideas of the dynamic capability researchers on how to create and maintain flexibility. The next paragraph will fill this gap and shed light on the relationship between flexibility and the concept of dynamic capabilities.

3.1. Flexibility-Thinking and Dynamic Capabilities: An Integration

Both the concept of flexibility and dynamic capabilities have been subject to in-depth academic discussions with respect to the management of turbulent environments. Teece et al. (1997) concluded their seminal paper on dynamic capabilities by suggesting that firms with adaptive capabilities hold dynamic capabilities. In fact, the researchers implicitly linked the dynamic capability concept to flexibility but did not get deeper into the issue. Winter (2003) explicitly articulated that the firms which have invested in dynamic capabilities are the flexible players. From the flexibility research perspective of Volberda (1998 p. 116) the developed repertoire of dynamic capabilities endows managers with flexibility that manifests itself in the flexibility mix. Also from the flexibility research camp, Grewal & Tansuhaj (2001 p. 73) noted that strategic flexibility involves capability-building and Johnson et al. (2003) conceptualized flexibility as a set of dynamic capabilities. In fact, there is considerable overlap among these two concepts. Firms develop dynamic capabilities not only to respond to market changes but also to initiate it proactively (Eisenhardt & Martin 2000). Similarly, reactive, proactive or preemptive elements of flexibility have been brought forward (Evans 1991, Johnson et al. 2003). Dynamic capabilities correspond to flexibility in the sense that they contain a surveillance function to sense and seize opportunities or threats (Schreyögg & Kliesch-Eberl 2007, Teece 2007). Within flexibility research, Johnson et al. (2003) presented option identification as the counterpart. Moreover both flexibility and dynamic capabilities have been argued to be equifinal, which means they can be developed from different starting points and along unique paths leading to very similar results (Eisenhardt & Martin 2000 p. 1108, Volberda 1996). Furthermore, in the definition of dynamic capabilities the term ‘capacity’ as the minimal ability to do or understand something does not imply the actual use of dynamic capabilities (Helfat et al. 2007 p. 277). Consistently perceived as a latent phenomenon, flexibility indicates potential not necessarily actual behavior (Slack 1983, Upton 1995). Despite the considerable overlap, these two research streams have surprisingly barely touched upon each other and have, for too long, been investigated as disconnected bodies of research. Although some flexibility researchers (e.g., Johnson et al. 2003, Volberda 1998) have acknowledged that a theoretically sound flexibility conceptualization may share some common ground with the dynamic capability reasoning, flexibility research still awaits a sound theoretical grounding. Too little effort has been made from the camp of flexibility research to capitalize on the emerging concept of dynamic capabilities to anchor the flexibility reasoning within the dynamic capabilities theory.

Flexibility has been related to the availability, (re-)deployment and exploitation of resources for firms to be able to cope with change and capitalize on opportunities. Flexibility, however, cannot be bought but must be planned, developed and managed internally (Gustavsson 1984, Meffert 1969). It follows that firms generate flexibility through a set of well thought out development processes. These processes can be assumed to be the firms’ operating capabilities and firms build the capacity to flexibly deploy their resources through these capabilities. The level of flexibility appears to be a function of the degree

to which the firm can effectively generate and use a variety of organizational capabilities (Sanchez & Mahoney 1996). Together with the resource base, these capabilities can give rise to choices. As a result, flexibility has frequently been discussed in the context of generating real options for the future (e.g., Beinhocker 1997, Englehardt & Simmons 2002 p. 117, Trigeorgis 1993, Williamson 1999). Options are rights but not obligations for future actions that have an initial cost and will only be struck under specific conditions (Amram & Howe 2002, Ford et al. 2002, Ng & Björnsson 2003). Their value positively covaries with the development of the underlying opportunity (e.g., environmental uncertainty) (Bowman & Hurry 1993 p. 767). Options theory lends itself to flexibility research because it enables one to attach a value to flexibility. The abstract notion of options can further be substantiated by the capability perspective. Firms may develop a well thought-out portfolio of capabilities that could constitute a bundle of options (Johnson et al. 2003, Matthyssens et al. 2005). Indeed, firms structure their flexibility by developing a portfolio of capabilities that allow for options (Englehardt & Simmons 2002 p. 118). It follows that 'flexible positions are attractive not because they are safe stores of value, but because they are good stores of options' (Jones & Ostroy 1984 p. 14). This is because they allow for actions to be taken at a later point in time (Bowman & Hurry 1993). Apparently, firms store their options in the form of capabilities. The development of capabilities appears to be a way of holding actual or potential flexibility residing in the organization available for the activation at short notice (Gerwin 1993, Koornhof 2001). This ensures firm's readiness, i.e., its flexibility. Approaching flexibility via capability theory is promising because it also allows for the examination of the latent existence of the concept. Barreto (2010 p. 40) posited that capabilities can lie dormant in a stored or potential state. Correa (1994 p. 37) defined flexibility as '…something which is possessed by the system but is not used all the time' and this clearly applies to capabilities as well. Operating capabilities can only truly exist 'in action' which means they require frequent refreshment. The capabilities approach towards flexibility also explains why Aaker & Mascarenhas (1984 p. 81) argued that flexibility can be achieved in a variety of ways and Slack (2005 p. 1190) pointed out that 'perfectly alternative paths exist' towards flexibility, a characteristic that Volberda (1998 p. 279) denoted equifinality which means there will never be only one best way to achieve flexibility (Volberda 1996 p. 372). From the reasoning above, flexibility appears to emerge from firms' capabilities. Flexible firms hold a bundle of capabilities, i.e., flexibility that enables them to adapt proactively or reactively to new information. Moreover, it appears that flexibility pivots around having the capabilities to initiate resource processes other than originally planned to achieve strategic goals.

Being backed with these insights, the link between flexibility and dynamic capabilities becomes apparent. To <u>be</u> flexible at a specific point in time, firms need appropriate capabilities. Flexibility viewed from a point of time is therefore the capacity to arrange the involved operating capabilities so that firms can create timely actions in a cost effective way if the situation requires them. Nevertheless, to <u>remain</u> flexible in the course of time, firms also need a dynamic capability. More specifically, to be flexible over time, firms

must refresh their operating capabilities to realign them with the environment (Teece 2007). In line with Evans (1991), the 'inner workings' of flexibility must be conceptualized as a continuous process that protects the system from obsolescence. Firms that have completely failed to invest in building and refining their capabilities will be disadvantaged when adapting to changed market conditions (Ward 1987 p. 33). In short, firms need to re-allocate and refresh their resources and capabilities to become and remain flexible and this is the dynamic aspect of it. Since most studies examined flexibility at one specific point in time, they have naturally approached the concept via operating capabilities (exceptions e.g., Johnson et al. 2003, Volberda 1996). Nevertheless, it has been shown that this view becomes conceptually insufficient if flexibility is considered as reallocation decisions over time because the static view does not make allowance for any adjustments and refreshing of the capabilities and thus the maintenance of the flexibility levels. Conforming to Helfat et al. (2007), this thesis suggests the following definition for the creation of flexibility: It is a sequence of internal and/or external reallocation processes and (dis-) investment decisions on the operational level to unfold choices as the core of flexibility for the deployment processes of the refreshed capabilities which enable, if desired, for the generation of visible market activities as a direct outcome of these processes.

Yet, the flexibility conceptualization based on a dynamic capabilities understanding seems to carry opportunity costs because of the existence of ad-hoc problem-solving as an alternative way of responding to change (Winter 2003). The understanding gained from the digression into dynamic capability theory sheds some more light on managers' conflict between ad-hoc problem-solving and flexibility. At first glance, ad-hoc problem-solving appears to be the most cost-effective method to cope with turbulence and uncertainty because the maintenance of capabilities is expensive (Winter 2003). They are therefore vulnerable to short-term cost reduction pressures because they require ex-ante investments but deliver uncertain future outcomes. Although seemingly more cost-effective, ad-hoc problem-solving carries a severe risk of failure because challenging environments do not tolerate decision making based on trial-and-error approaches (Vokurka & O'Leary-Kelly 2000 p. 499). Firms would be at risk of losing their long-term competitiveness by jeopardizing the trust of their customers. Management based on ad-hoc problem-solving can therefore not be a viable approach. In fact, researchers and managers who suggested ad-hoc problem-solving have not accounted for the latent cost of ex-post failure. Flexibility and ad-hoc problem-solving seem to have contrasting cost structures. Flexibility carries the cost of creating and refreshing capabilities. Nevertheless, the net costs of ad-hoc problem-solving (i.e., zero ex-ante investment + infinitely high ex-post cost of failure) are much higher than those of flexibility conceptualized as a dynamic capability (net costs = medium to high ex-ante investment + low ex-post costs). Flexibility in the form of dynamic capabilities provides firms with the future opportunity to alter their resource and capability configurations. This open choice provides flexibility but limits the risk and controls the costs of the initial investment in the option (Bowman &

Hurry 1993 p. 760, Sirmon et al. 2007 p. 279). Options have the advantage that firms can choose the size of the initial investment and thus are in full control of the cost of flexibility. They can hold options open until the opportunity arises and eventually decide whether to strike or abandon the option (Bowman & Hurry 1993 p. 760). The creation of flexibility perceived as a dynamic capability provides a repeatable and to a certain extent reliable pattern of practiced activity to handle uncertainty. Compared to ad-hoc problem-solving or unintended slack, it therefore constitutes a superior mechanism to ensure realignment between the organizational capabilities and customer value opportunities. This, in turn, is considered to be one of the most important purposes of marketing (Best 2005, Rindfleisch & Moorman 2003, Roehrich 2004, Zeithaml 2000). In summary, it has been found that the creation of flexibility, perceived as a dynamic capability, is not designed to directly produce goods or create marketable services but rather integrates and reconfigures resources and capabilities rapidly (Helfat & Peteraf 2003, Helfat et al. 2007, Teece et al. 1997). This is especially valuable for marketing and service firms which constantly operate at the market interface. To fully understand the phenomenon of flexibility and its creation, however, the internal process of flexibility must be observed further.

3.2. The Internal Processes of Flexibility

Having anchored the concept of flexibility within a theoretical frame, now the challenge is to open the black box and shed light on the process of creating flexibility. Sanchez (1995 p. 138) noted that firms must not only ensure resource availability for alternative courses of action, they must also develop the ability to coordinate the use of their resources as circumstances change. The processes of resource and capability creation, refreshment and deployment seem to matter especially in competitive contexts of resource parity among market players (Sirmon et al. 2008). Nevertheless, the path of transferring resources and capabilities into above normal profits remains nebulous (Priem & Butler 2001). Publications on dynamic capabilities have only recently started to investigate these transformational mechanisms. Similarly, very little is known about the capability generating processes underlying flexibility (Wang & Ahmed 2007 p. 34). The gap in literature on flexibility also arises because empirical research has mainly focused its measurement approach on the outputs of being flexible thereby indirectly assuming that for these outputs to exist, flexibility generating processes must have taken place in the operating system of the firm. In fact, from the market perspective it is true that flexibility abounds in the firm's behavior, more precisely, in its rapid market actions that are deployed to avert threats or exploit opportunities (Ansoff 1988, Dixon 1992, Evans 1991, Volberda 1998). The difficulty of observing flexibility solely in this way, however, lies in the latent nature of the concept. Although flexibility may be invisible during certain periods, still, the flexibility generating processes are being executed within the firm to build and refresh future capabilities. Flexibility captured only as market actions would cloud firms' actual flexibility capacity because it neglects the latent existence of flexibility during calm periods, i.e., the flexibility stored in the form of organizational capabilities and options ready to strike (Barreto 2010, Jones & Ostroy 1984). Flexible firms hold resources and certain

accompanying capabilities that permit them to generate appropriate actions at short notice and these capabilities constitute the real core of flexibility. Scholars need to accumulate more knowledge about the path of creating and deploying flexibility in order to provide advice for managers to make well informed adaptation decisions (Vokurka & O'Leary-Kelly 2000 p. 499). As empirical flexibility literature, to date, has not presented an integrated process of creating flexibility, this thesis draws on neighboring literature streams such as resource management, resource-based theory, dynamic capabilities and the management in turbulent and uncertain environments. With regard to flexibility, these fields could shed light on the mechanisms that transform environmental change into firms' actions. The next passage will provide a brief review of existing approaches that could be helpful to approach the processes of creating flexibility.

Sirmon et al. (2007) presented their idea of value creation in a resource management conceptualization which included three consecutive sub-processes: 1.) structuring the resource portfolio, 2.) bundling resources to create capabilities and 3.) leveraging the capabilities. Using structuring processes, firms externally obtain, internally accumulate or divest resources. Resource bundling builds upon the structured resource portfolio and encompasses stabilizing, enriching and pioneering processes to create or alter capabilities by combining resources (Sirmon et al. 2007). Finally, firms apply these capabilities via leveraging activities that consist of capability identification, integration and deployment processes. Sirmon et al. (2007 p. 275) emphasized the influence of poor resource management choices by assuming that management's structuring, bundling and leveraging decisions are responsible for firm heterogeneity. While insightful, some conceptual inconsistencies appear in this resource management conceptualization. The internal development of resources, for instance, requires capabilities that are conceptualized as being the result of the structured resource portfolio and the recommendation of acquiring resources as real options that directly allow for changes in the capabilities is desirable but rarely possible. The proposed split into resource structuring and capability bundling processes seems to break down as the components significantly intermingle. Within a subsequent publication, Sirmon et al. (2008) corrected some of the inconsistencies by stressing that in the short-run, managers' decision-making is constrained because they cannot influence the resource structuring sub-processes and must rely on the given resource endowment so that the present stock of resources forms the upper boundary of firms' value creation potential (Makadok 2003). Sirmon et al. (2008 p. 924) provided valuable insights by suggesting that an effective management of resources in terms of managerial skills for the development and management of capabilities becomes more relevant for firms that compete on comparable levels of resource endowment. Recalling the equifinal nature of flexibility, this is because similar resource endowments can result in dissimilar outcomes (Zott 2003). By conceptualizing the stabilizing, enriching and pioneering sub-processes as part of firms' bundling process, Sirmon et al. (2007) also contributed useful insights for a flexibility creation framework. Among the various capabilities, managers must frequently decide which capabilities to emphasize given the specific situation (Shamsie et

al. 2009). This prioritization encompasses Sirmon et al.'s (2007) stabilizing and enriching or even disinvestment decisions. Under high turbulence, these decisions may become even more critical, as budget-restrictions often necessitate prioritizing. These capability investment decisions are critical because the capabilities selected for further stabilizing or enriching determine the strength of firms' operating capabilities for marketing, sales and distribution actions that deliver value propositions to customers in turbulent times.

Continuing the search for appropriate capability and flexibility creation conceptualizations based on the insights gained from resource management literature, the further review suggested a closer look at Johnson et al.'s (2003) theoretical flexibility conceptualization. Coming from a flexibility-based research perspective, they conceptualized market-focused strategic flexibility as a set of dynamic capabilities for the identification, acquisition (external obtaining or internal accumulating) and the deployment (configuration and leverage) of resources and the identification of options (Johnson et al. 2003 p. 78). This composition of capabilities allows for the creation of options while the option identification capabilities ensure the best possible set of resources for the generation of options (Johnson et al. 2003 p. 78). This breakdown of flexibility into capabilities for accumulating, configurating and leveraging or reconfigurating and deploying is highly enlightening. Their suggestion to understand these capabilities as a set of distinct dynamic capabilities should be considered with caution. Conceptually, there should be only one dynamic capability that consists of other ordinary capabilities. A closer look shows that publications on dynamic capabilities have unintentionally provided insights into the subprocesses of flexibility. It has become evident that organizational and managerial processes underpin dynamic capabilities (Helfat et al. 2007 p. 30). Firms' capabilities to be flexible in the current period depend on their investments made and actions engaged in within former periods (Rangan 1998 p. 233). In line with Sirmon et al. (2007), these processes can be interpreted as the deliberate investments in stabilizing and enriching or disinvestment decisions for the current capability base. Helfat et al. (2007 p. 32) considered all decision making processes that concern the firm's resource positions as being relevant for the creation or improvement of the dynamic capability. Even prior to the advent of the dynamic capability discussion, Dierickx & Cool (1989) have already stressed that firms must constantly monitor their resources and capabilities because they require maintenance investments. For Teece (2007 p. 1319), dynamic capabilities involved three different capability types. 1.) Firms must have capabilities to sense threats or promising situations, 2.) possess the capabilities to enhance, protect and reconfigure the resources in order to 3.) shape and seize these opportunities. Each of the above presented process frameworks is consistent with Helfat et al.'s (2007 p. 1) definition of dynamic capabilities as 'the capacity of an organization to purposefully create, extend or modify its resource base'. Interestingly, although hardly recognized in the literature, Helfat et al. (2007 p. 30-31) further decomposed their dynamic capability concept and attributed specific processes to the individual sub-capabilities:

1. Capability to identify the need or opportunity for change
→ *consists of problemistic search and opportunity recognition processes*

2. Capability to formulate a response
→ *comprises internal selection and resource allocation processes*

3. Capability to implement a course of action
→ *builds on managerial and organizational processes*

Their tripartite conceptualization of dynamic capabilities is in accordance with the above reasoning that dynamic capabilities are composed of ordinary capabilities that, in turn, consist of business processes. At the same time, it also fits into the description of flexibility as the '…capability to identify external changes and to quickly commit resources to a new course of action' and to 'recognize and act promptly when it is time to halt or reverse such resource commitments' (Shimizu & Hitt 2004 p. 45). It is in line with Verdú-Jover et al. (2006 p. 338) who suggested that a successful adaptation to changing information requires processes for the creation, integration and application of a series of capabilities that promote flexibility. It is more comprehensive than the alternative processes reviewed but at the same time simple and elegant. It is consistent with the sequential order of capabilities that manifest dynamic capabilities suggested by Eisenhardt & Martin (2000). Conceptually, Helfat et al. (2007) did not subdivide accumulation from reallocation processes as presented by Sirmon et al. (2007) and Johnson et al. (2003). This is conceptually prudent as it prevents from separating closely interwoven processes. Contrary to Johnson et al. (2003) who coupled the resource portfolio with the subsequent identification and recognition of options, Helfat et al. (2007) located the proactive or reactive identification of options at the beginning of the dynamic capability process. This is sensible because flexibility has been argued to be especially valuable in changing conditions where firms must identify the need or opportunity and subsequently re-allocate their resources.

The insights gained from the above analysis of the strengths and shortfalls of the dynamic capability and flexibility literature enable one to make the following propositions for a testable capability theory-based flexibility model: To have options available this thesis defines flexibility as the firm's ability to be adaptable and capable of change to respond to a wide range of situations and demands as they unfold to satisfy the market expectations without incurring excessive costs, organizational disruptions or performance losses (see Gustavsson 1984, Aaker & Mascarenhas 1984). Flexibility itself is therefore a capability. To be flexible in time, the creation and maintenance of this capability called flexibility are essential. The flexibility creation capability is therefore conceptualized as a dynamic capability which refreshes the ordinary capabilities. The flexibility model of this thesis consists of a sequence of ordinary capabilities for the internal or external realloca-

tion- and the corresponding (dis-) investment decisions on the operational level. This unfolds strategic choices. The dynamic aspect of the dynamic capability called flexibility creation ensures that the ability to be adaptable and capable of change is not a one-time benefit but rather a lasting strength of the firm. In line with Helfat et al.'s (2007) dynamic capability view and the flexibility literature this thesis conceptualizes a flexibility research model that consists of the following components:

1. Resource reallocation processes
→ *capability to formulate a response*

2. Market deployment processes
→ *capability to implement a course of action*

3. Performance outcomes
→ *assessment of the effectiveness of reallocation and deployment processes*

The capabilities for the rapid resource reallocation constitute the heart of the flexibility creation process. They enable firms to take actions and deploy the capabilities in the market which forms the visible manifestation of the preceding processes and internal capabilities. This is accompanied by market sensing and monitoring capabilities to identify the need or opportunity for change. Market sensing processes appear to be an important antecedent of flexibility but should not be conceptualized as a component of the flexibility process per se but should rather be treated separately. The academic literature has thoroughly discussed the market sensing phenomenon (e.g., Amit & Schoemaker 1993, Day 1994). The thesis will therefore neglect the market-sensing processes. The existence of the resource reallocation capabilities and firms' willingness to make effective use of them form the ability to be adaptable and capable of change and only the combination may lead to performance outcomes.

3.2.1. Reallocation Processes - The Core of Flexibility

Changing environments affect the value of the resources and operating capabilities so that the existing bundle of resources and capabilities may only temporarily contribute to the firm's value creation (Amit & Schoemaker 1993, Miller & Shamsie 1996). Day (1994 p. 47) stressed that changing environments need situation-specific actions and that the resource portfolio must allow for this. Firms must be able to act on the insights gained from their market sensing activities and translate the different types of uncertainty into altered bundles of resources and capabilities to ensure the achievement of their strategic and operational objectives (Gerwin 1993). The creation of flexibility draws on capabilities to select resources internally and to re-allocate them (Helfat et al. 2007). Trigeorgis (1993 p. 2003) argued that firms' value creation and strategic positioning critically depend on resource allocation decisions. Accordingly, numerous definitions have related flexibility to timely resource allocation decisions and Easterby-Smith et al. (2009) emphasized the

relevance of reallocation processes in their publication on dynamic capabilities. The reallocation component of the flexibility creation process comprises internal selection and allocation processes (Helfat et al. 2007). More specifically, it is the process of organizing and regulating the availability of situation-specific resources and capabilities and allotting knowledge resources (Krijnen 1979 p. 65, Okhuysen & Eisenhardt 2002). Reallocation processes consist of resource shifts and transfers and the repositioning of resources and functions (Aaker & Mascarenhas 1984, Koornhof 1998). Managers must regularly evaluate to what degree stabilizing, enrichment and disinvestment processes are required (Shamsie et al. 2009, Sirmon et al. 2007). In doing so, firms create new portfolio mixtures of resources and capabilities. Resource reallocation can be defined as the (re-) apportionment of the firm's resources to specific organizational functions, departments, products and/ or markets (Mantrala et al. 1992, Slotegraaf et al. 2003 p. 296, Walker & Ruekert 1987). Managers initiate these processes to recombine the firms' resource bundle in new ways to adapt to new market conditions (Eisenhardt & Martin 2000, Helfat et al. 2007, Sirmon & Hitt 2003, Teece et al. 1997). Helfat et al. (2007 p. 47) even put forward that 'organizations take the form they do in part because of resource allocation processes.' Makadok (2001) associated managers with architects rather than resource-pickers because they are continuously concerned with choices about changes in the resource positions (Helfat et al. 2007 p. 31-32). Managers' allocation decisions should be guided by market demands, the strategic relevance of the capabilities and the opportunity costs of refraining from actions (Day 1994). The role of architects is thus to recognize the intrinsic value of the dispersed resources and allocate them accordingly (Iansiti & Clark 1994).

Challenging environments require firms to commit resources to different areas of application and to immediately realize and act when it is time to halt or reverse these commitments (Shimizu & Hitt 2004 p. 45). Firms can be considered to become and remain flexible if they can do so in a timely and cost-effective manner. In fact, speed is an important aspect because all firms re-allocate their resources sooner or later but only the ones which can do so in a timely manner can be considered to be flexible. Costs are another important aspect because firms must trade off their various capability development and reallocation intentions under budget restrictions (Teng & Cummings 2002). Via reallocation and recombination processes, firms could generate a nearly unlimited range of open alternatives. Economic and temporal constraints, however, limit the pursuit to a smaller number of possible options that are available within the consideration set (Young-Ybarra & Wiersema 1999 p. 444). This is because there are several direct and indirect costs associated with creating and maintaining flexibility (Carlsson 1989 p. 184, Jack & Raturi 2003, Kickert 1985, McKee et al. 1989, Sanchez 1995). Firms may therefore wish to economize on their efforts to be flexible which, in turn, narrows their range of feasible options. In fact, to be flexible, firms must be able to change with little penalty in time, effort or cost (Ansari et al. 1997, Slack 1983, Upton 1994). The ease of moving has therefore been recognized as an essential aspect of flexibility (Slack 1987). The fact that not all firms in the market possess high or even unlimited levels of flexibility indicates that flexibility is

not a free and unlimited capability. Flexibility creation and resource reallocation should not be considered outside a time-cost framework and financial resources play an essential role in making allocation decisions.

Kor & Mahoney (2005 p. 489) emphasized that a model to observe the capability renewal processes must look beyond the level of investment in specific resources. It must also include deployment actions because they constitute the visible manifestation of the flexibility creation process. The following chapter will therefore introduce the importance of deployment processes.

3.2.2. Deployment Processes - The Manifestation Dimension

Market actions are highly insightful for research on flexibility because they constitute the visible manifestation of the firms' internal capabilities to exploit market opportunities or defend against market threats. Kickert (1985, see also Verdú-Jover et al. 2006, Volberda 1996) argued that flexibility is a form of meta-control which aims at increasing the ability to act or respond by implementing adequate actions. The implementation of a chosen course of action is an essential part not only of dynamic capabilities but also an important outcome of flexibility (Helfat et al. 2007). Penrose (1959) stressed that the mere possession of resources does not contribute to the creation of value - firms must also deploy them. It has generally been recognized that capabilities and their configurations become valuable only if their returns are extracted (Eisenstat et al. 2002, Sirmon et al. 2007). Therefore, firms' value creation for customers and shareholders depends on the effective application of capabilities (Lichtenstein & Brush 2001). The individual adaptations through market sensing and internal capability creation and resource reallocation processes are a necessary but not sufficient condition. The resulting quickly modified bundle of resources and capabilities provides the capacity to strike market, product and service options (Johnson et al. 2003). With respect to the external perspective on flexibility, Verdú-Jover et al. (2006 p. 338) therefore argued that besides the creation and allocation processes, an effective adaptation strategy also requires firms' ability to integrate and apply the individual capabilities. This means that the newly created or refreshed resources and capabilities must also be coordinated and leveraged in the market (Sirmon et al. 2007). In effect, deployment as a means of creating value for customers requires managerial and organizational processes to determine where and how to apply the capabilities in a market context (Helfat et al. 2007). Accordingly, deployment is defined as the physical use of the refreshed capabilities and resources, in other words, it is the activity of translating these capabilities and resources into market actions (Sirmon et al. 2007 p. 285, Slotegraaf et al. 2003 p. 296). Slotegraaf et al. (2003 p. 296) described market deployment as the firm's actions that are intended to generate market responses (e.g., marketing mix activities). Menuc & Auh (2006) added that it is not only the resource reconfiguration itself. These processes must be combined with the intention to make market-oriented decisions to achieve desired effects. The investigation of these deployment processes is highly relevant because it reflects firms' ability and willingness to make use of the re-

allocated resources and refreshed capabilities. It should be noted, however, that resource allocation and market deployment are two separate sets of processes. Resource allocation has been defined as the apportionment of resources to specific functions (Walker & Ruekert 1987). It occurs prior to the market deployment actions (Slotegraaf et al. 2003 p. 296). One cannot set resource allocation equal to deployment because deployment reflects the use of resources but not all resources that have originally been allocated may actually be deployed (Slotegraaf et al. 2003 p. 296). From this, it also follows that holding refreshed capabilities is desirable, but only the market actions that result from the flexibility generating reallocation processes seem to unfold the performance relevance that numerous researchers have erroneously ascribed to flexibility per se rather than to its actual usage. Having raised the aspect of value creation, the next paragraph will deal with the performance implications.

3.3. Performance Implications and Value Creation – The Effectiveness Assessment

Aaker & Mascarenhas (1984 p. 74) argued that external change creates uncertainty and raises performance concerns. Performance seems to be a relevant concept within a flexibility research model in order to assess the effectiveness of the preceding reallocation and deployment processes. It has become clear that flexibility results from rapid reallocation decisions that are encompassed by effective market deployment actions. Given the various involved sub-processes, to be successful in terms of performance outcomes, firms must ensure the harmonization of all processes and decisions involved in the creation and use of flexibility. It is a managerial task to initiate and synchronize the involved processes (Sirmon et al. 2007, Volberda 1998). This can enable the firm to effectively transfer the generated allocation advantages into market actions and ultimate performance outcomes (Makadok 2003). In fact, for a positive performance contribution of flexibility, the 'resource changing propensity' (Barreto 2010 p. 272, Rosenbloom 2000) is a sine qua non but its value only unfolds in the presence of managers transferring the generated options into market actions that are faster or more appropriate than competitors' moves. This is because deployment actions ensure the realization of flexibility and this must be both efficient and effective (Evans 1991, Slotegraaf et al. 2003 p. 296). With regard to the performance reasoning, researchers must carefully separate the short-term performance relevance of flexibility from the aspect of long-term value creation. Flexibility understood as managers' reallocation decisions naturally involves certain costs. More precisely, from an accounting perspective, changes in the investment or expense level for flexibility reasons may immediately have unfavorable short-term profit implications. Nevertheless, these flexibility decisions may contribute to the long-term value creation for customers and shareholders. Consistent with the view of flexibility creation as a dynamic capability, it would be imprudent to directly relate reallocation decisions to performance outcomes because dynamic capabilities, per se, are not valuable in the short-run but unfold their value potential over time. Firms' reallocation decisions result in a modified resource base and adjusted available means (Evans 1991, Helfat et al. 2007). Consistently, dynamic capabilities have been argued to be indirectly beneficial for the creation of value because

they make allowance for resource and capability manipulation (Eisenhardt & Martin 2000). The concept of flexibility creation in the form of a dynamic capability allows for empirical falsification without directly relating its value to performance outcomes. Now it becomes clear why Helfat et al. (2007) did not include performance outcomes into their definition and decomposition of dynamic capabilities. Performance can only result from the outcomes of dynamic capabilities, namely, the deployment of the refreshed and re-allocated operating capabilities on the resource base.

3.4. Conceptual Model of Flexibility: Process Integration into a Flexibility Framework

To sum up, the research logic of this study is as follows: Change and turbulence in the external environment create uncertainty about future developments and gives rise to performance concerns. Firms therefore aim to create and maintain a certain level of flexibility, i.e., to hold future options to cope with the uncertainty. Flexibility is the ability of firms to be adaptable and capable of change to rapidly respond to or initiate a wide range of situations and demands to satisfy the market expectations without incurring excessive costs, organizational disruptions or performance losses (Aaker & Mascarenhas 1984, Gustavsson 1984). The creation of flexibility is composed of reallocation capabilities that are accompanied by market-sensing and market deployment capabilities and this combination leads to the delivery of customer value. Figure 2 illustrates the conceptualization of the presented flexibility framework. As shown, the capability of being flexible results from firms' rapid resource reallocation processes. Similar to Wang & Anand (2007 p. 43), this thesis conceptualizes the creation of flexibility as a series of resource reallocation processes which form organizational behavior responses that remain mainly hidden behind the curtain of the firm's borders. Market actions are perceived as the result of the preceding creation, alteration and modification processes and constitute the visible part of the organizational behavior response. Flexible firms effectively deal with changing situations because they are able to successfully manage and harmonize the flexibility generating and accompanying processes of this framework in a timely manner. Therefore, as shown in Figure 2, the developed flexibility research model also contains a performance element in order to capture the effectiveness of the firms' harmonization efforts.

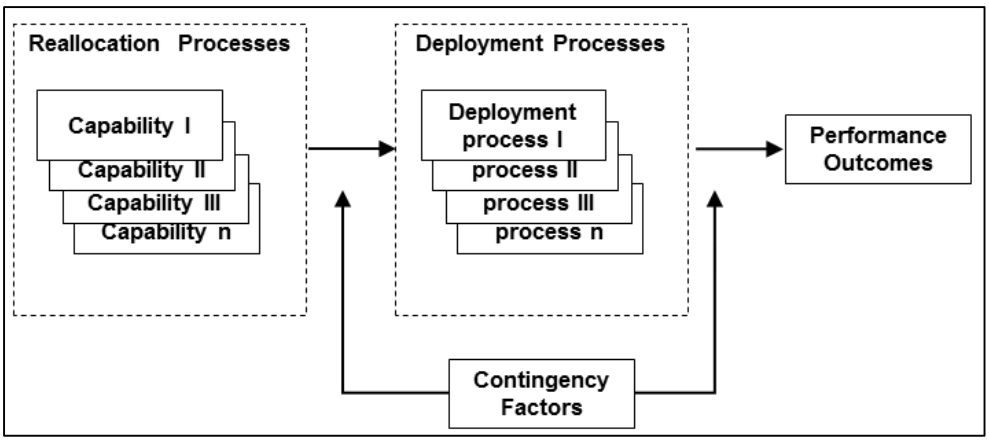

Figure 2: General flexibility framework

4. Study I

Linking Outsourcing to Flexibility - An Analysis of the Collateral Benefits of Market-focused Flexibility with regard to a Greater Diversity in Market Actions and Market-focused Performance Outcomes.

How do firms become and remain flexible?
How does outsourcing contribute to this process?
How does the flexibility gained by firms manifest in the market?
What are the market-focused performance outcomes of being flexible?

4.1. Introduction

In recent years, the fast sequence of events such as the rise and fall of the dot-com economy, terror attacks with spill-over effects on the economy, the Gulf War, the rise of the emerging markets, the spread of the internet with new forms of communication and commerce, global warming and the changing environmental awareness or the financial and economic instabilities in the course of the financial crisis have alarmed firms (Sull 2009). Shareholders expect that managers navigate their firms through turbulent environments despite volatile and unpredictable demand changes which regularly force them to change what they do and the way in which they do it (Kozlowski et al. 1999, LePine 2003). While early management thought intended to reduce the interfaces with the external environment in order to minimize the external threat (Scott 1998), nowadays, researchers with a market-focused perspective have recognized that it is inevitable to maintain exchanges with the environment in these rapidly changing conditions. Therefore, some form of uncertainty in the marketplace is unavoidable for most firms and the aim is to accommodate the environmental noise to effectively deal with the uncertainty (Fredericks 2005). Firms must focus on more than just superior products and services at attractive prices in turbulent environments (Beach et al. 2000 p. 42). They must also deal with demand fluctuations and initiate market actions faster than their competitors to keep them in check (Gaimon & Singhal 1992). That is, firms require the capabilities to remain viable to rapidly act and counteract in order to satisfy the market needs. In search of potential responses to uncertainty, several alternative mechanisms have been presented in literature such as the mere avoidance of uncertainty (Mascarenhas 1982, Womack et al. 1990), demand stabilizing (Slack 1987), ad-hoc problem solving or improvisation (Aaker & Mascarenhas 1984, Moorman & Miner 1998 p. 698), preventive maintenance (Slack 1987) or flexibility (e.g., Aaker & Mascarenhas 1984, Evans 1991, Upton 1995). Among these, strategic flexibility has been argued to be a highly sophisticated competitive response to uncertainty (Ansoff 1965, Beach et al. 2000, Sanchez 1995, Womack et al. 1990). This is because the decision making, implementation and outcome achievement need to be rapid since time emerges as an important factor in environments characterized by the time sensitivity of information (Glazer & Weiss 1993). Flexibility is valuable because it enables firms to act or react promptly while minimizing the stress suffered (Mallak 1998). There is empirical

evidence that quick responses to changes contribute to firms' alignment with the environment (Bourgeois & Eisenhardt 1988, Powell 1992). Most firms wish to increase the scope of their action portfolio and their speed of implementation because they cannot foresee and plan for every eventuality (Evans 1991). Managers' speed of action, firms' flexibility and the ease of moving consequently top the list of desirable capabilities (Rhinesmith 1993, Ronen 1989). Based on Volberda (1998 p. xi) in this paper we argue that flexible firms can draw on a greater speed of action to accommodate market needs. The ability to modify current states is highly valuable and flexibility provides a means for this rapid and effective adaptation. Flexibility is not only important when change is forced on the firm but also when opportunities unexpectedly arise. Two firms may identify a market chance simultaneously but only the more flexible one will be able to seize the opportunity faster and more satisfactorily (D'Aveni et al. 1993).

Despite the important contribution of previous research findings, market-focused approaches to flexibility and publications based on marketing contexts or marketing, sales and distribution-focused firms remain rare. Although an academic discussion about flexibility surrounding products and markets has emerged, still, it has focused too little on the capabilities and mechanisms to build and maintain flexibility to answer the unique needs and wants of customers during turbulent times. In fact, recent research findings have mainly represented market-focused outcomes of flexibility whereas the highly relevant inputs for creating market-focused flexibility remain undiscovered. With regard to the capabilities firms apply to do things differently, little is known about the organization of these market-related activities in changing environments (Volberda 1997, Workman et al. 1998). Johnson et al. (2003) noted that advances towards marketing and market-linking activities to generate options have almost been absent. However, if marketing is about answering the market demands, questions such as how firms alter their marketing capabilities when the market requirements suddenly change and how these capabilities contribute to market success necessarily arise. While several researchers have focused on the identification of those marketing capabilities that support the delivery of customer value, this study concentrates on the set of market-focused capabilities and the firms' capacity to be adaptable and capable of change to rapidly respond to or initiate a wide range of situations and demands (Aaker & Mascarenhas 1984, Bahrami 1992, Bonder 1976, Eppink 1978, Gustavsson 1984, Johnson et al. 2003, Sanchez 1995). The paper suggests that market-touching, market-facing and market-support capabilities are important for delivering superior value to customers and that the created flexibility manifests in diverse market maneuvers. Yet, we emphasize that the flexibility inherent in these activities cannot be bought but must be created internally. To continuously do so during turbulent times, firms must be flexible in a market-focused way, i.e., they must be able to re-allocate their resources taking the market needs into account. Nevertheless, although the flexibility creation processes need to take place internally, we believe that under certain conditions firms can draw on external service providers to obtain carefully selected activities to en-

hance their market-focused flexibility. We thus consider outsourcing decisions as a feasible way to create additional flexibility potential. Based on this, we specify the following central research questions: *How do firms become and remain flexible and how does outsourcing contribute to this process? How does the flexibility gained by these firms manifest on the market and what are the market-focused performance outcomes of being flexible?* In order to address these research questions, we have organized the paper as follows. The next paragraph will introduce the concept of flexibility and will research into the mechanism of how firms create flexibility by means of resource reallocation processes. Based on this, we will outline why flexibility needs to be considered from a market-focused perspective and discuss the role of environmental turbulence and uncertainty. We present the practice of outsourcing and link market-focused flexibility to the reallocation of resources to external service providers. This provides the framework for hypothesizing about the creation of flexibility by means of resource reallocation processes to external suppliers and their effects on the diversity of firms' market actions and performance. We provide insights into the empirical analysis that rests on data of service-based marketing, sales and distribution business units of the automotive industry. Based on a structural equation model, our partial least squares (PLS) results show that selective outsourcing can boost flexibility without sacrificing market-based performance. We also discuss further flexibility and performance enhancing effects of outsourcing decisions and outline the implications of our findings for research and practice. We conclude the paper by theorizing about future research paths and outlining the limitations of our research contribution.

4.2. Market-focused Flexibility

Flexibility has often been characterized as a nebulous and complex concept. Researchers have agreed that the notion of flexibility is not amenable to simple definitions (Aaker & Mascarenhas 1984, Adler 1988, DeLeeuw & Volberda 1996, Eppink 1978, Gerwin 1993, Golden & Powel 2000, Volberda 1998). The New Oxford Dictionary of English (1998) assigned the ability of being 'ready and able to change so as to adapt to different circumstances' to flexibility. Flexibility has been described as the ability to change quickly (Bolwijn & Klumpe 1990) and the capability to adapt or change (De Toni & Tonchia 2001). With regard to firms, Krijnen (1979 p. 64) defined it as the ability to change itself in such a way so as to remain viable. According to Mandelbaum (1978) flexibility is the capacity to undertake new actions to meet new circumstances (action flexibility) and the ability to work in spite of changes (state flexibility). The latter is similar to the ability to continue functioning effectively during hardship which was presented by Ramasesh & Jayakumar (1991 p. 452). Some researchers have extended the base definitions by including market-related elements such as the ability to respond to the demands of dynamic competitive environments (Sanchez 1995 p.138) or to change with competitive market conditions (Hitt et al. 1998 p.27, Matusik & Hill 1998 p. 682). Flexibility has also been regarded as the size of the choice set, the range of possible states or behaviors, the scope of options, the pool of novel actions or the degrees of freedom ready for use or available at short

notice (De Toni & Tonchia 2005, Golden & Powell 2000, Johnson et al. 2003, Marschak & Nelson 1962, Rosenhead et al. 1972, Sanchez 1993, Slack 1987, Thompson 1967, Trigeorgis 1993, Upton 1995 p. 76).

Given the variety of approaches to capture the concept, Evans (1991 p. 74) categorized the meanings of flexibility into three main dimensions: Firstly, flexible firms yield to pressures and remain viable, they are susceptible of modifications and lastly they have the capacity to precipitate new states. Despite its multi-disciplinary application, there seems to be a basic agreement that flexibility is the ability to change or adapt to change and the majority of definitions consider flexibility as an adaptive capacity, ability or capability (e.g., Aaker & Mascarenhas 1984, Dreyer & Grønhaug 2004, Eppink 1978, Evans 1991, Golden & Powell 2000, Grewal & Tansuhaj 2001, Gustavsson 1984, Johnson et al. 2003, Slack 1983, 1987, Volberda 1998). Accordingly, we draw on Gustavsson (1984) and Aaker & Mascarenhas (1984) and define flexibility as the ability of firms to be adaptable and capable of change to rapidly respond to or initiate a wide range of situations and demands to satisfy the market expectations without incurring excessive costs, organizational disruptions or performance losses. The definition describes the capacity to rapidly reassemble the involved operating capabilities at hand in order to be able to generate timely actions in an effective way if required. Gustavsson's plain approach to flexibility (1984) simply as the ability to be adaptable and capable of change is broad enough to prevent the concept from losing some of its attributes the more it is quantified (Koornhof 1998 p. 200). This broad view allows for the wide range of flexibility applications (Bahrami 1992, Bonder 1976, Eppink 1978, Johnson et al. 2003, Sanchez 1995). The final annex accounts for cost and time requirements and also includes quality concerns for market needs and customer satisfaction (Upton 1994, 1995, Zhang et al. 2002). This is because more flexible firms should be able to generate more desirable performance changes (i.e., greater profits or smaller losses) while moving to a new position (Groote 1994 p. 933-934, Marschak & Nelson 1962). The question that necessarily arises from the above discussion is what makes flexibility market-focused?

More recently, firms have started to discover the merits of a flexible market-focused distribution system as a driver of value where firms physically deliver the products and services and more importantly enhance the value of the product and service by attaching additional intangible attributes (Throll & Rennhak 2009 p. 76). Firms require a strong external orientation towards customers, competitors and market developments to deliver superior value propositions to the market (Johnson et al. 2003). Firms need to be and stay in touch with the market and the demand side of the market requires their full attention. Marketing researchers have therefore related business performance to the firm's ability to understand, meet or exceed customer needs and expectations because the preservation and protection of customer value has been referred to as the core purpose of marketing (Kotler 2004, Srivastava et al. 2001). Srivastava et al. (2001) stressed the importance of

frequent actions for augmenting, nurturing and renewing the market-based assets and capabilities as competitors would otherwise shoot at a 'sitting target' (p. 790). Yet, firms must also be able to do so in a timely and cost effective manner. This is where flexibility comes in. Being at risk of losing touch with the market, winning firms may be those that move closer to their customers and the market. Johnson et al. (2003 p. 75-77) emphasized that firms can do so via market-focused flexibility in their market-linking activities for products, their positioning and their distribution. Although Slack (1987) referred to manufacturing, his idea of flexibility as an enabler to quickly move with customer needs and wants, deal with competitive pressures and be closer to the market, provides reasons to believe that his logic is even more applicable to the realm of market-related functions. Firms require capabilities to engage in exchange processes that customers appreciate and these capabilities must be open to changing market requirements and evolving customer needs. More precisely, they need capabilities that are both relevant to market linking but also flexible in nature (Johnson et al. 2003 p. 85). It follows that firms must strive for a customer pleasing level of flexibility because customers do not value the firm's flexibility per se (Zhang et al. 2002). Rather, the market rewards those firms that provide products and services at the right place at the right time that meet or exceed customers' needs. As a consequence, managers must base their resource reallocation decisions on the extent to which the resulting capabilities are expected to contribute to valuable customer propositions and to the development or retention of competitive advantage during rapidly changing times (Sirmon et al. 2007 p. 280). To continuously do so during turbulent times, firms must be flexible in a market-focused way, i.e., they must be able to quickly re-allocate their resources with regard to the market needs. To be market-focused, the general business processes surrounding the creation and deployment of flexibility must be guided by market considerations. In fact, the customer pleasing level of flexibility describes what we denote as market-focused flexibility.

The research approaches to flexibility have been highly versatile. The concept has been presented as a dependent, independent and moderating variable. Flexibility is desirable because it is said to allow for the modification of a course of action if the encountered situation significantly differs from the planned one (Hart 1937), to enable firms to deal with uncertain markets and fast-occurring events (Aaker & Mascarenhas 1984), balance dialectical forces and pull through threatening events (Anderson 1994, Bahrami 1992) and to cope with economic and political threats and manage adversity (Grewal & Tansuhaj 2001). Harrigan (1985) linked the ability to reposition in the market, dismantle the present strategy or change the game plan to flexibility and emphasized that actions are necessary when the customer base served so far is no longer as attractive as it used to be (p. 1). From a market-focused perspective on manufacturing flexibility, Johnson (1992) defined flexibility as the ability to produce something that satisfies the customer immediately or within a short span of time. Flexibility has often been described as a means of accommodating uncertainty so that several researchers use flexibility or adaptability as an independent variable linking it to performance outcomes. Although highly popular,

there are only mixed empirical findings for the direct relationship approach that hypothesizes about a positive relationship between strategic flexibility and performance (e.g., Fiegenbaum & Karnani 1991, Gatignon & Xuerb 1997, McKee et al. 1989, Shimizu & Hitt 2004, Slack 1988, Suarez et al. 1995, Swamidass & Newell 1987). Swamidass & Newell (1987) found a significantly positive link between production flexibility and performance. Gupta & Somers (1996), in contrast, presented a significant positive performance impact only for three out of their nine flexibility variables. More recently, researchers have hesitated to assign performance relevance to flexibility per se. This is because the frequently hypothesized positive link from flexibility to performance suggests that low levels of flexibility lead to low performance and that more flexibility is always better which may not be true in all environmental circumstances (Pagell & Krause 2004, Suarez et al. 1991). To overcome this conceptual weakness, contingency models with moderated relationship between flexibility and performance have been presented (Anand & Ward 2004, Nadkarni & Narayanan 2007, Suarez et al. 2003, Verdú-Jover et al. 2005). These models assume a positive path from flexibility to performance only under specific contingencies such as high uncertainty based on the argument that the strategic value of flexibility can approach zero or even turn negative in certain situations (Kulatilaka & Marks 1988 p. 578). In fact, flexibility unfolds its value in a world of uncertainty (Beach et al. 2000, Weiss 2001). Nadkarni & Narayanan (2007) presented empirical evidence for a positive link between strategic flexibility and performance under high industry clock-speed and a negative relation under low speed. Grewal & Tansuhaj (2001) tested reactive strategic flexibility in different economic scenarios and found support for a significant negative link between reactive strategic flexibility and performance under normal conditions. This relationship turned positive when strategic flexibility was linked to after crisis performance because the costs of flexibility were outweighed by the flexibility benefits during the uncertain times of crisis (Grewal & Tansuhaj 2001). Integrating competitive intensity, demand and technological uncertainty as contingency factors into their crisis scenario, strategic flexibility had positive performance implications under high competitive intensity while demand and technological uncertainty weakened the positive relationship. Anand & Ward (2004) used mobility and range flexibility to indicate firms' strategic orientation. They showed that the alignment of the flexibility strategy with the environment paid-off in performance outcomes. They found a positive link between range flexibility and performance because firms required a rapid-reaction flexibility type in volatile but predictable environments while mobility flexibility, i.e., the ability to re-maneuver, had a positive influence on performance in unforeseen conditions.

Despite these findings, ambiguity remains as to whether the capability to handle uncertainty gives direct rise to competitive advantage because flexibility is not considered as a separate economic goal anymore (Beach et al. 2000, Krijnen 1979 p. 63, Meffert 1985). Firms are not selling and customers do not value flexibility itself (Johnson et al. 2003 p. 83, Slack 1987). Flexibility has rather been perceived as a facilitator or means of achieving firm outcomes such as rapidly providing and maintaining superior customer offers

despite changing conditions (Slack 1987). Oktemgil & Greenly (1997) emphasized that performance improvements result only indirectly and are a consequence of the intermediate outcomes of flexibility such as the enhanced development of marketing activities, more rapid responses to competitors' moves and market changes or the pursuit of new product-market opportunities. Sanchez (1995) also provided evidence that performance does not directly result from operative flexibility. He attributed competitive advantage to the higher strategic flexibility some firms possess in dynamic product markets so that they are able to outmaneuver or neutralize competitive threats and exploit opportunities. For us, these findings suggest a research approach based on an indirect effect of flexibility on performance. More precisely, operative flexibility is proposed to abound in market actions which, in turn, have an effect on performance outcomes. Beyond this, we argue that under changing environmental conditions, it is probably even more relevant for firms to remain flexible in the course of time. This is because flexibility pivots around having the capabilities to initiate resource processes other than originally planned to achieve the strategic goals. Surprisingly, little is known about the processes of enhancing and delivering flexibility and there is a lack of frameworks that deal with the creation of flexibility (Aaker & Mascarenhas 1984 p. 75, Beach et al. 2000 p. 55, Eppink 1978). Therefore, research on flexibility has often been criticized for not providing concrete operating procedures (Skordoulis 2004). This gap in literature on flexibility also arises from the fact that empirical research has focused on the characteristics of flexible firms and the outputs of being flexible thereby indirectly assuming that for these outputs to exist, flexibility generating processes must have been executed in the operating system of the firm. Research lacks a careful investigation of the capabilities and investments that are necessary to create flexibility on the operational levels. Thus, we expand our research to the sources of flexibility. The 'inner workings' of flexibility must be conceptualized as a continuous process that prevents the system from obsolescence since firms that completely failed to invest in building and refining capabilities have been argued to be disadvantaged in adapting to changing market conditions (Evans 1991, Ward 1987 p. 33). Next, we will research the actions and processes of how to become and remain flexible.

4.2.1. Creating Flexibility via Resource Reallocation Processes

For Sanchez (1995 p. 138), the key challenge in dynamic markets is not only to ensure the availability of resources that provide strategic options for alternative courses of competitive actions. Firms must also develop the ability to coordinate their use (Sanchez 1995 p. 138). Yet, change in a turbulent environment can be competence destroying on the level of the operating capabilities so that firms' competitive advantage can quickly erode (Bettis & Hitt 1995, Danneels 2002, Dierickx & Cool 1989, Winter 2003). Over time, firms with an unadjusted pool of resources could lose their ability to engage in effective market activities to meet or exceed customer expectations. Thus, managers' task of resource allocation cannot be an initial one-off undertaking. All firms that wish to survive have to adjust their resource pool. Helfat et al. (2007 p. 47) even argued that 'organizations take the form they do in part because of resource allocation processes.' Firms that

survive in the market must be able to commit resources to new courses of action and halt or reverse such resource commitments but we stress that flexible firms are able do so in a more timely manner (Shimizu & Hitt 2004 p. 45). Adaptive firms are able to rapidly modify their behaviors based on capability adjustments which match the situation and this ability cannot be bought but must be planned, developed and coordinated internally (Ashford 1986, Gustavsson 1984, Meffert 1969). More recently, researchers have agreed that the flexibility phenomenon is closely connected to rapid resource reallocation capabilities and several definitions directly or implicitly referred to flexibility as a strategic resource reallocation and deployment decision (e.g., Aaker & Mascarenhas 1984, Buckley 1997, Grewal & Tansuhaj 2001, Johnson et al 2003, Krijnen 1979). Krijnen (1979 p. 65) perceived flexibility simply as the process of organizing to regulate the availability of resources in order to ensure the achievement of the firms' strategic goals. Wright & Snell (1998 p. 757) described flexibility as the 'ability to quickly reconfigure resources and activities in response to environmental demands'. Johnson et al. (2003) introduced the term market-focused strategic flexibility and referred to a set of capabilities that consists of reallocation capabilities such as resource identification, acquisition and deployment capabilities. Resource reallocation, in general, can be defined as the apportionment of the firm's resources to specific organizational functions, departments, products and/or markets (Mantrala et al. 1992, Slotegraaf et al. 2003 p. 296, Walker & Ruekert 1987). This encompasses prioritization decisions to stabilize, enrich, invest or discard situation-specific capabilities (Sirmon et al. 2007). Flexibility viewed from a point of time is therefore the firms' capacity to arrange the involved operating capabilities in a manner to generate timely actions in a cost effective way if required. To remain flexible in the course of time, however, firms also require a dynamic element in this ability. To be flexible over time, firms need to refresh their operating capabilities and have them constantly realigned with the market environment (Teece 2007). Easterby-Smith et al. (2009) highlighted the relevance of quick reallocation processes in this context and related them to dynamic capabilities. Dynamic capabilities represent 'the capacity of an organization to purposefully create, extend or modify its resource base' (Helfat et al. 2007 p. 1). 'Dynamic capabilities thus are the organizational and strategic routines by which firms achieve new resource configurations as markets emerge, collide, split, evolve, and die' (Eisenhardt & Martin 2000 p. 1107). In contrast to ad-hoc problem-solving, they are desirable because they are highly patterned and therefore allow for a repeatable and reliable performance of the operating activities (Helfat & Peteraf 2003, Sirmon & Hitt 2003). This conceptualization fits into the idea of flexibility as the '…capability to identify external changes and to quickly commit resources to a new course of action…' and to '…recognize and act promptly when it is time to halt or reverse such resource commitments' (Shimizu & Hitt 2004 p. 45). However, this has often resulted in the misleading conclusion that flexibility is defined as the ability to re-allocate resources. Rather, researchers must carefully distinguish being flexible from the internal processes of creating flexibility because only the latter forms the actual dynamic capability.

These insights from resource-based theories enable us to make the following propositions for a testable flexibility conceptualization: To be in a situation to have options available and to be adaptable and capable of change over time (Gustavsson 1984), firms must build and nurture the ability called flexibility. This rests on a sequence of capabilities and the corresponding set of managerial (dis-) investment and reallocation decisions to quickly initiate processes other than those originally planned. It ensures the achievement of the strategic goals even under changing external conditions. Thus, the dynamic capability to rapidly commit resources to a new course of action and to 'recognize and act promptly when it is time to halt or reverse such resource commitments' (Shimizu & Hitt 2004 p. 45) hides behind the ability to be flexible. Conforming to Helfat et al. (2007), we propose the following definition. The creation of flexibility is a sequence of internal and/or external reallocation processes and (dis-) investment decisions on the operational level to unfold choices as the core of flexibility for the deployment processes of the refreshed capabilities which enable, if desired, for the generation of visible market activities as a direct outcome of these processes. Researchers must keep in mind that being and becoming flexible both have their raison d'être but must be conceptually distinguished. Hence, the level of flexibility is a function of the degree to which the firm can effectively create and use a variety of organizational capabilities, in other words, the strength of the underlying dynamic capability to rapidly refresh the ordinary capabilities (Sanchez & Mahoney 1996). The resulting options enable firms to quickly take actions and deploy the capabilities in the market whenever considered to be appropriate. In fact, although conceptually different, the aspect of re- allocation and deployment should not be considered in isolation - acting flexible depends on the ability to create flexibility.

4.3. Environmental Turbulence and Uncertainty

The subject of challenging environmental circumstances has been a matter of intense academic discussion because the nature and pace of change have dramatically altered. Today's business environment hosts more challenges than ever and economic, political and competitive developments have become extremely fast. The high turnover of events challenges firms. Researchers (e.g., Dickson 1992) have characterized this strategic reality as a constant, chronic state of flux where the actions and responses of customers, competitors and other market participants vary unreliably. For instance, they have referred to changing market conditions and substantial, uncertain and fast-occurring environmental changes (Aaker & Mascarenhas 1984 p. 74, Ansoff 1980, Bowman & Hurry 1993, Johnson et al. 2003, Krijnen 1979, Priebe 1969). Unpredictability has increasingly been mentioned in this context given the unforeseen or unanticipated environmental changes (Bahrami 1992, Eppink 1978). These environments have also been characterized as unstable with respect to a substantial magnitude, high frequency and velocity of change which indicates a high volatility (Duncan 1972, Frederickson & Mitchell 1984, Thompson 1967, Volberda 1997, 1998). Environmental volatility refers to a fluctuating but rather regular level of change. All in all, environmental change has increasingly become volatile and unpredictable and has moved from incremental to discontinuous (Duncan 1972, Nadler

& Tushman 1995, Thompson 1967). Given the increasing degree, unpredictability and volatility of change, it has widely been accepted that change in such environments is turbulent (Bourgeois & Eisenhardt 1988, Dess & Beard 1984, Duncan 1972, Glazer & Weiss 1993, Johnson et al. 2003, Meyer 1982, Volberda 1998). We define environmental turbulence as the combined effect of volatility and unpredictability in demand and suggest that this effect causes environmental uncertainty. The rapid changes in the external environment have been related to and conceptualized as a driver of environmental uncertainty because turbulent markets are information intensive and are subject to frequent turnovers in the general stock of market knowledge (Glazer 1991, Glazer & Weiss 1993). Managers often lack the critical information and the little information available to them lacks clarity (Lawrence & Lorsch 1967). They suffer from uncertainty about the depth and duration of the disturbance and cannot accurately forecast environmental changes such as economic up- or downturns or competitive attacks because sufficient information about the nature, impact, severity and the timing of change is missing (Milliken 1987). This situation is critical for managers because they are confronted with smaller decision windows, diminishing streams of opportunity, unpredictable resource needs and a perceived lack of control (Hayes & Albernathy 1980, Jain 1983, Stevenson & Gumpert 1985).

Whether the environmental change originates from economic, political and competitive developments, turbulent conditions often come along with substantial changes in the demand level and unexpected discontinuities in the projected growth rates (Glazer & Weiss 1993, Keats & Hitt 1988). When demand suddenly severely collapses, firms' sales volumes are adversely affected and profitability is put in jeopardy. With firms facing rapidly increasing costs per unit as revenues decrease, costly and liquidity reducing inventory piles up which challenges managers in times of sluggish demand. While unexpected high-growth market conditions, in contrast, seem to put firms in the comfortable situation of automatically pushing revenues up, this sudden growth can be as challenging as unexpected market declines. During unexpected high-growth conditions and unpredicted peaks in demand, firms may easily encounter out-of-stock situations or overburdened service capacities. This can be extremely damaging for the firm as it cannot serve all customers inclined to buy and unfulfilled customer aspirations have been found to result in dissatisfied customers and threatened long-term repurchase rates (Heskett et al., 1994, Storbacka et al. 1994). Our conceptualization of environmental turbulence captures both, the upside as well as the downward pressure of uncertainty.

These conditions have been argued to further aggravate the coordination and implementation of market actions and severely affect firm strategizing because turbulent environments can easily outpace given strategies and threaten firms' competitive advantage (Eichengreen & Bayoumi 1999, Fine 1998, Heide & Weiss 1995, Johnson et al. 2003, Nadkarni & Narayanan 2007, Rana 2007, Williams 1994). While uncertain, we emphasize, that periods of high turbulence may also offer opportunities because changing envi-

ronments could give sudden rise to resource and capability value and windows of opportunities appear and disappear before the majority of firms has taken note of them (Ahmed et al. 1996 p. 562). It is therefore important for firms not only to recognize the value of strategic actions in these situations but also to be able to act quickly as these moments constitute the rare opportunities to leapfrog competitors by picking up market share from the shakier market participants (Ang et al. 2000 p. 113, Priem & Buttler 2001). As demand fluctuates, managers must consequently be concerned with the acquisition and reallocation of scarce resources to meet the changing demand (Pearce & Michael 2006 p. 201). Uncertainty in demand has frequently been reported as one of the major obstacles for managers (Kitching et al. 2009). Managers are expected to deal with the uncertainty they are exposed to in a flexible manner because uncertainty becomes too compelling to be ignored (Slack 1987, Jones & Ostroy 1984 p. 26). It follows that environmental uncertainty about demand characteristics and competitors' behaviors has a great influence on the firms' need for flexibility (Suarez et al. 1991). A study on flexibility can therefore not disregard the requirements of the market. Firms must not only assure flexibility in the development and manufacturing of their products, their products and services must also be distributed and their value propositions communicated to the customer. Being concerned with the initiation and facilitation of favorable market exchange processes between the firm and its environment, marketing is naturally to a large extent externally oriented and thus one of the business functions most directly and immediately affected by externally induced change (Bagozzi 1975, Day 1994, Hunt 1976, McCarthy & Perreault 1987, Srivastava et al. 2001).

4.4. Linking Flexibility to the Diversity in Market Actions

Firms that want to achieve competitive advantage must exploit their resources through business processes (Espino-Rogriguez & Padron-Robaina 2006 p. 52, Ray et al. 2004, Stalk et al. 1992). They must engage in continued series of market actions such as product launches, marketing or promotion campaigns to be successful in competitive markets (D'Aveni 1994 p. 279, Young et al. 1996 p. 248). In order to remain competitive, the Austrian school of economics emphasized the firm's ability to engage in effective market actions (Schumpeter 1934). Managers' decision-making about competitive moves and the firm's capabilities determine the diversity of competitive actions that ultimately becomes visible to customers, competitors and other market players (Ferrier et al. 1999 p. 378, Grimm & Smith 1997). The number and intensity of such competitive actions can also be assumed to differ over time as well as across managers depending on the firm's goals. Consistent with Ferrier et al. (1999 p. 378), we define competitive actions as all externally directed, specific and observable newly created market moves initiated by a firm to enhance its competitive position (see also Chen et al. 1992, Smith et al. 1991, Young et al. 1996).

Based on the above literature review, we suggest that firms that are flexible in a market-focused way rest their advantage on two pillars. Internally, they are able to assure very

timely resource reallocation processes that fit to the perceived market demands. These processes form the operational basis for firms' market actions that are directed outwards to the market (Zhang et al. 2002 p. 562). Market actions thus link the firm to the market which is vital for firms' success. Miller & Chen (1996) introduced the term firm action repertoire simplicity and defined it as a firm's propensity to concentrate on carrying out a narrow range of action types in a given year, as opposed to a broad range of action types. Ferrier et al. (1999 p. 375) proposed that firms that deploy a narrow range of competitive actions do so because they can only draw on a relatively simple resource base whereas firms that employ a broad range of market actions rely on a more complex resource base which provides multiple advantages. For us, it follows that market actions are the external manifestation, i.e., the visible sign of wisely managed resource reallocation processes, in other words flexibility. They are the manifestation that becomes directly visible to the market participants while the resource reallocation processes constitute the actual and true source of flexibility creation but go unnoticed by the market. Zhang et al. (2002 p. 568) argued that firms with a higher number of or a greater variety in their market activities can be considered to be more flexible than firms with a low number or diversity. It can be argued that the latter firms have been more capable in allocating their scarce resources to the right positions at the right time. This is important because an aligned deployment of assets and capabilities has been emphasized as one of the overarching issues underlying flexibility (Evans 1991). Consistently, Zhang et al. (2003) noted that customers are unwilling to pay for more flexible operational processes and do not value internal operational flexibility as this remains hidden behind the drawn curtains of the firm's boundaries. Rather, 'customers value the manifestation of these competencies…' (p. 187) which is the capacity of the firm to provide the market with the right actions and services, at the right time and at the expected level (Zhang et al. 2003). It follows that the internal operational flexibility creation is important but not valuable in itself. It must take the detour via firms' market actions to unfold the effectiveness that customers value and are willing to pay for. In summary, it is important to understand that an internal operational viability provides the foundation for flexible market actions but only the market activity itself generates the revenues and ensures the desired market positioning.

4.5. Outsourcing

Firms cannot act in isolation because no firm is fully self-sufficient (Gilley & Rasheed 2000). As management reality has demonstrated, firms can and regularly do expand their boundaries to intermediate markets in the external environment. According to the resource-based theory (RBT; Barney 1986, Conner 1991, Wernerfelt 1984), successful firms draw on resources that are relevant for the creation of demand for their products and services to protect or expand their competitive position. They develop these resources internally or obtain certain resources, products and services from intermediate markets by establishing ties to other firms through which communication and resources flow. Using this bridging function that links their value chain to providers on the intermediate market, firms can create value that lies beyond cost economies by accessing additional capabilities

(Holcomb & Hitt 2007, McEvily & Zaheer 1999). Gottfredson et al. (2005 p. 1) described this as the new discipline of 'capability sourcing' and argued that 'it's no longer ownership of capabilities that matters but rather the firm's ability to control and make the most of critical capabilities.' We believe that this is where the resource-based outsourcing research contributions find their niche in a transaction cost economics (TCE) dominated outsourcing discussion. Although various definitions have been presented, there is a common understanding among researchers that outsourcing connotes the external acquisition of activities (Espino-Rodriguez & Padron-Robaina 2006 p. 52, Quinn & Hilmer 1994). According to Greaver (1999 p. 10) outsourcing is characterized by the transfer of activities to the outside that have formerly been provided internally. It is the discontinuation of the internal development of products and services and the substitution of external purchases for internal activities (Gilley & Rasheed 2000 p. 764). Beyond this, it also includes abstention-based outsourcing which is the conscious decision to reject the internal development of products and services although the necessary capabilities would have been available in the realm of the firm (Gilley & Rasheed 2000 p. 765). We adopt the definition of Gilley et al. (2006 p. 18). Accordingly, 'outsourcing involves the procurement of physical and/or service inputs from outside organisations either through cessation of an activity that was previously performed internally or abstention from an activity that is well within the capability of the firm'. This implies that not all decisions to engage in activities outside the boundaries of the firm fall within the scope of outsourcing (Deavers 1997 p. 513). Unlike procurement, we use the term outsourcing to refer to the external acquisition of activities and business processes that could have been assigned internally to the regular employees since the firm possesses the managerial and financial capabilities to perform them (Abraham & Taylor 1993 p. 1, Gilley & Rasheed 2000). This differentiation is important because we consider the outsourcing decision as an option rather than a constraint. Options are rights but not obligations for future actions that have an initial cost and can be struck under specific conditions (Amram & Howe 2002, Amram & Kulatilaka 1999). With regard to the real options created by outsourcing, firms obtain the right to acquire and make use of particular business services or operational actions from external sources at a certain stage in the future (Gilley & Rasheed 2000 p. 765, Leiblein & Miller 2003 p. 843). Thereby, firms are able to utilize external capabilities, skills and resources (Lei & Hitt 1995) at varying levels and receive pre-specified outcomes in exchange for financial resources that they allocate to the external service provider rather than committing financial and managerial resources to internal purposes.

Within the realm of resource-based approaches, several researchers have examined the strategic aspects surrounding the outsourcing decision (e.g., McIvor et al. 1997, McIvor 2000, Poppo & Zenger 1998, Quinn & Hilmer 1994, Quinn 2000, Teng et al. 1995, Venkatesan 1992). Many reasons and drivers of outsourcing have been presented based on financial and strategic motives. Among the often-cited reasons are the concentration on core competences (e.g., Fill & Visser 2000, Gilley & Rasheed 2000, Kakabadse & Kakabadse 2000, Quinn & Hilmer 1994), cost reduction and efficiency considerations (e.g.,

Bettis et al. 1992, Brandes et al. 1997, Canez et al. 2000, Deavers 1997, Fill & Visser 2000, Greaver 1999, Jennings 1997, Lankford & Parsa 1999, McIvor et al. 1997), easing the accounting records to improve financial performance measures (e.g., Bragg 1998, Gilley & Rasheed 2000, Greaver 1999, Harland et al. 2005, Welch & Nayak 1992, Blaxill & Hout 1991, Winkleman et al. 1993), quality improvements (e.g., Canez et al. 2000, Fill & Visser 2000, Gilley & Rasheed 2000, Kakabadse & Kakabadse 2000 p. 673), the handling of market fluctuations and capacity constraints through cost control by converting fixed into variable costs (e.g., Currie & Willcocks 1997, Jiang et al. 2007), the avoidance of investment commitments (e.g., Bragg 1998, Gilley et al. 2004, Greaver 1999) and increasingly for flexibility reasons (e.g., Deavers 1997, Fine & Whitney 1999, Greaver 1999, Harrison & Kelly 1993, Kakabadse & Kakabadse 2000, Quinn & Hilmer 1994). Yet, the research findings for outsourcing drivers are ambiguous. McIvor et al. (1997, also McIvor 2000) found that many outsourcing firms are driven by short-term cost efficiency considerations. Quélin & Duhamel (2003 p. 655) in contrast, mentioned the access to external competences as the dominating motive for R&D, marketing and recruitment outsourcing and Harrison & Kelly (1993) stated capacity constraints as the main driver. Beyond the drivers, RBT researchers have also studied the relationship between outsourcing and performance (Gilley & Rasheed 2000, Gupta & Zhender 1994, Klaas 2003, Murray et al. 1995, Teng et al. 1995). There is empirical evidence that listed firms with short-term outsourcing contracts convey positive signals to the stock market and thus benefit from an enhanced market value (Jiang et al. 2007). Gilley & Rasheed (2000) empirically showed that the relationship between outsourcing and performance is moderated by firms' competitive strategy. It is positive for firms following a strategy based on cost considerations and negative for firms on a differentiation strategy. Teng et al. (1995) empirically showed that managers consider the strength and performance potential of their internal resources when making outsourcing decisions. Other researchers have investigated actual outsourcing patterns and the strategic shortcomings of TCE to derive resource-based outsourcing recommendations. They tried to establish links between the strategic relevance of the business function and the propensity to outsource it (Argyres 1996, Aubert et al. 2004, Klaas et al. 2001, Quinn & Hilmer 1994). Gilley & Rasheed (2000), for example, differentiated between core and peripheral activities according to their value contribution and many similar classifications which are based on the strategic relevance are available. From the perspective of human resource (HR) management, Delmotte & Sels (2008 p. 555) found evidence for a link between the strategic importance assigned to HR functions and the level of outsourcing but they could not find evidence for a relationship between cost cutting concerns and the outsourcing of HR activities. While resource-based outsourcing research has traditionally recommended external contracting arrangements only for peripheral or non-core activities, more recently, researchers and analysts have examined an increase in outsourcing of core-close and mission critical activities (Bragg 1998, Greaver 1999, Gottfredson et al. 2005, Jennings 1997, McIvor 2000, 2005, Sia et al. 2008 p. 413). Quinn & Hilmer (1994) found that firms outsource activities that are highly important for their business although not core and Insinga &

Werle (2000 p. 59) observed that firms classify more and more activities as basic. They concluded that some functions are central to operations but they do not directly contribute to competitive advantage. Espino-Rogriguez & Padron-Robaina (2005 p. 717) showed that even activities that are closely related to the core value generating activities could be outsourced.

Outsourcing has been found to be a frequently employed practice in manufacturing firms and much research attention has been dedicated to the manufacturing context (Gilley et al. 2004). The question of which activities and functions managers should outsource has occupied many researchers (e.g., Delmotte & Sels 2008, Kakabadse & Kakabadse 2002, Quélin & Duhamel 2003). Still, despite calls for more outsourcing research beyond the borders of manufacturing and operations literature (Grover & Malhotra 2003, McIvor 2009 p. 46), the outsourcing of services surrounding market-linking functions and outsourcing in service industries lacks a deeper understanding (Maltz & Sautter 1995 p. 241). To date, academic outsourcing research has widely overlooked the fact that the value chain is a combination of manufacturing processes and service operations (Stevenson & Spring 2007 p. 690). Compared to component outsourcing, Maltz & Sautter (1995 p. 233) concluded that firms which outsource some of their services solve the trade-off between quality, speed and cost concerns differently. Quélin & Duhamel (2003) examined 18 non-manufacturing business activities across different industries and found a high level of outsourcing in support functions such as IT, logistics, payroll processes and telecommunications and an increasing tendency for accounting and industrial maintenance service outsourcing but they observed low outsourcing levels for marketing, finance, after-sales services, recruitment, R&D and industrial data processing. In general, non-critical HR and IT functions were found to be common candidates but the more critical recruitment and training activities have shown strong growth rates (Blumberg 1998 p. 16, Clark et al. 1995, Cross 1995, Delmotte & Sels 2008 p. 552, Gainey & Klaas 2003, Greer et al. 1999, Kakabadse & Kakabadse 2000 p. 710, Lee et al. 2003, Tan & Sia 2006 p. 180).

Having closely integrated parts of their marketing, sales and distribution organization to move closer to the market and sense the changing needs of their customers sooner, for many firms (e.g., in the automotive industry) this has also brought along the cost of committing some of their resources to non-market-centered activities (Holcomb & Hitt 2007). For specific activities, firms have thus started to ‘back pedal’ by outsourcing selected fields of the business. As a result, besides the mentioned traditional outsourcing candidates, outsourcing decisions can and increasingly do include more critical business activities also in the areas of marketing (Gilley et al. 2004 p. 118, McGovern & Quelch 2005 p. 1, McIvor 2009 p. 45). Whereas external market research, media consulting services and delivery chain activities such as warehousing, logistics & physical distribution have already become more prevalent, there appears to be a new movement of considering services that directly link to the customers as potential outsourcing candidates (e.g., customer contact center, loyalty programs, after-sales services; Kantsperger 2007 p. 339,

342, 355). Although there have been warnings against the outsourcing of activities that directly impact the marketing and sales strategy (McGovern & Quelch 2005 p. 2), in practice, outsourcing decisions increasingly embrace activities and functional areas of the firm that substantially contribute to its added value (Quélin & Duhamel 2003 p. 648).

At first glance, the trend to outsource more core-close services seems to be in stark contrast to the reasoning of the core competences approach. Yet, with regard to the specific nature of services this also indicates that firms seem to expect more from their outsourcing decisions than the frequently mentioned cost savings and the access to deeper knowledge pockets. Although TCE-prone and theory-based, Abraham & Taylor's (1993 p. 5) mathematical model constitutes an interesting strategic approach. They considered an outsourcing scenario based on changing work flows and argued that under fluctuating demand, the price charged for the outsourced services must be higher than the costs of internal production at least for some levels, i.e., the particularly interesting demand peaks and extremum values, as firms would otherwise lose their reason to exist. Departing from this TCE-based line, they further argued that the more expensive 'strategic use of outside contractors to meet the peak period demand may be cost effective' (Abraham & Taylor 1993 p. 6). Therefore, they theorized about a relationship between the extent to which a specific activity can be rescheduled to off-peak periods and the outsourcing probability. Indeed, the challenge of many market-linking business services in fluctuating environments is the fact that their demand cannot be fully planned ahead while services cannot be kept in stock because production, distribution and consumption are often simultaneous processes (Grönroos 2006). For marketing, sales and service-based firms it becomes difficult to manage fluctuations in demand and synchronize service supply and demand because their unused capacity cannot be claimed and services themselves cannot be inventoried (Zeithaml et al. 1985). Based on these findings, we find it surprising that the majority of studies defined outsourcing in a broad manner including the access to expertise not available internally. Firms that seek to participate from the deeper knowledge pockets of external providers engage in strategic sourcing since they do not have any choice in times when the internal development would be too time consuming. We, however, adopt a narrow perspective on outsourcing because this enables us to access the option creating potential of outsourcing. This is especially important because in contrast to manufacturing firms, a strong desire for flexibility in non-manufacturing firms may result from the fact that an unused or oversubscribed capacity at any time results in lost sales and disappointed customers. Still, resource-based outsourcing research has not yet provided a service-based outsourcing explanation and still relies on the same recommendations as elaborated for the outsourcing of manufacturing activities although service marketing literature has emphasized the specific nature of services (e.g., Zeithaml et al. 1985, Grönroos 2006). We stress that the outsourcing question is of extreme significance for market-linking services, firstly because many business services directly or indirectly touch upon the firm's customers and their value perceptions (Blumberg 1998 p. 65) and secondly because of the option creating potential of outsourcing that we will examine next.

4.6. Linking Outsourcing to Market-focused Flexibility

Turbulent environments bring about uneven work flows and make a solely internal accommodation of change more costly and risky (Abraham & Taylor 1993). Although firms may possess the general capabilities, this does not necessarily imply that the capacity is immediately available to internally perform the business process just at the right moment (Wasner 1999). Our outsourcing literature review illustrated that managers' decisions about the reallocation of resources are not restricted to the boundaries of the firm. Holcomb & Hitt (2007) regarded outsourcing as a decision between the use of internal or external resources to perform a duty. Outside contracting decisions can have an impact on the flow of in-house work and affect the firm's resource reallocation policy and its asset management practices (Abraham & Taylor 1993, Quélin & Duhamel 2003 p. 647). This is because outsourcing is a set of choices that changes the level of resources directly allocated to internal business functions and thereby influences the firm's resource base (Espino-Rogriguez & Padron-Robaina 2006 p. 52, Quélin & Duhamel 2003). The seemingly loosely coupled external resource reallocation decisions can provide 'on-demand' access to capabilities through intermediate markets (Holcomb & Hitt 2007 p. 472). It follows that the observation of firms' external ties can be highly enlightening because conscious resource reallocation decisions become visible through this lens. In fact, outsourcing and flexibility seem to share some important common ground: the reallocation of resources.

In times when supply and distribution chains regularly extend beyond the organizational borders, Vokurka et al. (2003) concluded that flexibility must also stretch beyond firms' internal flexibility. For Sia et al. (2008 p. 408), firms may wish to complement their internal flexibility with sources of external flexibility in situations when service volumes fluctuate, user requests vary, alterations of existing services are required or exceptions need to be handled. In fact, firms which exclusively rely on the internal perspective of flexibility pass up the flexibility contribution that can be created by establishing external links (Vokurka et al. 2003). Blyton & Morris (1992) emphasized that flexibility has been used intra- as well as inter-organizationally through links with trading partners outside the boundaries of the firm. The allocation from and to external sources, in turn, endows firms with options. This implies that outsourcing considered as a real option provides preferential access to future opportunities (Bowman & Hurry 1993 p. 762). The options arising from outsourcing are particularly valuable because occasionally, internally developed processes and services may not adequately meet the market requirements in terms of the intensity, scope and timeliness. In certain situations and only for a transitional period, firms may search for a rapidly extended volume capacity, an enhanced responsiveness of their processes or a better performance with regard to their market timing (Choi & Hartley 1996, Frohlich & Dixon 2001, Loh & Venkatraman 1992, Narasimhan & Das 1999, Weber et al. 1991). In fact, there is evidence that outsourcing decisions can enhance firms' responsiveness to the needs of their customers (Bailey et al. 2002 p. 84, Cánez et al. 2000, Gilley & Rasheed 2000, Quinn & Hilmer 1994). Quélin & Duhamel (2003)

stressed that cost considerations are only one aspect of the outsourcing decision besides strong expectations to gain flexibility to manage market fluctuations in order to meet customers' expectations. Harrison (1994) empirically showed that outsourcing is positively related to flexibility. Combs & Ketchen (1999) provided empirical evidence that firms' resource-based considerations take priority over the often cited cost economizing governance choices and Fine & Whitney (1999) noted that firms trade-off parts of their possibility to intervene in order to obtain greater degrees of capacity freedom. There has also been support that outsourcing has a positive impact on financial as well as operating flexibility (Gilley & Rasheed 2000, Hendry 1995, Wasner 1999).

The exclusion of activities from our outsourcing definition for which the firm does not hold the necessary capabilities allows us to assess the extent to which firms use outsourcing for flexibility reasons. We argue that external resource considerations can help to regulate the availability of resources to ensure the achievement of firms' strategic goals. Modeling outsourcing as externally directed resource reallocation decisions enables us to fully integrate outsourcing into our proposed concept of creating market-focused flexibility. It fits into our idea of creating flexibility as the sequence of internal and/or external reallocation processes on the operational level to unfold strategy choices. We argue that reallocation processes to external providers (i.e., outsourcing) can support the flexibility creating dynamic capability and thus contribute to the ability of firms to be adaptable and capable of change to rapidly respond to or initiate a wide range of situations and demands. We take this as a basis for the main proposition of this paper: Firms use outsourcing as a means of creating market-focused flexibility. Extending our resource-based reasoning, we argue that firms carefully pay attention to their risk exposure caused by potentially delayed market responses before abandoning outsourcing due to fears of losing parts of their unique differentiation. In fact, recalling the characteristics of services, there is a high risk of dissatisfying the market demands for firms that are unable to meet changing market requirements at very short notice. Although firms may, in general, possess the required capabilities for an internal development, still, they may not have them at their disposal at very short notice, at the right time and in the right place. We believe that flexibility created by reallocation processes to external providers can, by itself, be a source of differentiation that customers value because of the time-sensitivity of decisions. Still, RBT researchers have claimed that resources (e.g., market-linking services) that are transferable in the market via outsourcing lose their ex post limits to competition (Peteraf 1993). Therefore, they cannot be a source of long-term competitive advantage because these offers are also open to competitors and thus become imitable, lose their uniqueness and the potential for differentiation (Espino-Rogriguez & Padron-Robaina 2005 p. 709, 2006 p. 62). In fact, we agree that the individual business services obtained are not rare in nature as they are also open to competitors. Note, however, that we do not argue that the competitive advantage directly results from the services acquired through value chain linkages. Although the provided service itself is not rare, outsourcing firms use the safe environment

within their own boundaries to create the competitive advantage that results from the rapidly assembled, idiosyncratic bundle of in-imitable reallocation decisions and their firm-specific timing (i.e., its flexibility creating capability) (Holcomb & Hitt 2007). Thus, rapid reallocation processes constitute the true source of differentiation in market-focused flexible firms. It follows that the resource not sufficiently possessed internally and instead obtained through the bundle of external resource reallocation decisions can actually be described as additional margins of time. We propose that flexible firms use resource reallocation processes to external service providers (resource level) to create market-focused flexibility. On the operative level, they convert this flexibility into a greater diversity of market actions which form the visible outcomes of the reallocation decisions and this, in turn, unfolds market-focused performance outcomes on the strategic level (see Figure 3 for this conceptual framework). This is because favorable performance outcomes only result for firms that deploy their created flexibility in the market, especially because unused flexibility has a cost (Kickert 1985, Sanchez 1995).

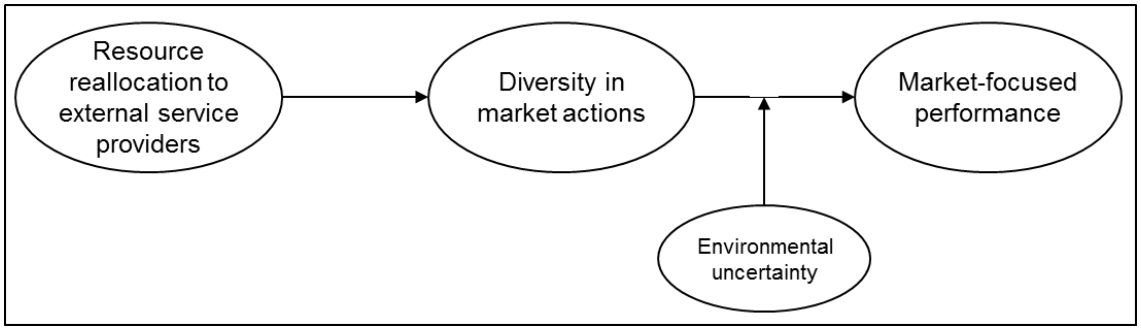

Figure 3: Conceptual framework (study I)

4.7. Hypotheses

Marketing, sales and distribution firms conduct miscellaneous activities in various business functions. We directed our attention to three functional groups of activities commonly found in these firms and differentiated them according to their relevance for and their closeness to the customer. Firstly, we defined *market-touching* functions as those functions which are exposed to a considerable market contact. They directly link the firm to the market by creating uni- or bidirectional market exchanges. We subsumed all sales functions, communication, advertising & branding, product & service management, pricing and customer service & support functions under this notion. These activities play a significant role in the creation of unique marketing resources and help to develop, maintain and defend competitive advantage. They have the closest distance to the market. These activities need to be complemented by *market-facing* functions that indirectly unfold their market relevance. We refer to all business functions as market-facing that shape the customers' value perception without directly touching the market as they do not directly come to the fore for the customers. Although customers do not explicitly perceive them as value enhancing, activities such as dealer support and distribution network management, quality assurance, distribution management and technical service and support are directed towards the market and play a crucial role in the firm's market positioning

by helping to form customer value perceptions. Finally, these two groups of market-directed functions must rest on a solid foundation of *market-support* functions. These are all administrative back office functions that are executed at a greater distance to the market and unnoticed by the customer. For us, market-support functions are hygiene factors for which customers do not appreciate highly streamlined and market-focused operations but they become dissatisfied in the event of any process disturbance (Herzberg 1959). We assigned functions such as accounting, procurement, legal advice, HR, business development, training & coaching, IT & technical process support and database management to this group. This classification into three groups of business functions enabled us to assess the flexibility creating potential of outsourcing decisions in each function in a value neutral manner. Researchers have frequently cautioned against the outsourcing of market-directed functions based on the outcomes of testing the direct impact of outsourcing on performance. They have hypothesized about negative performance effects for the outsourcing of these so-called core and core-close functions and argued that losses in the firms' differentiating potential would cause negative performance outcomes for these strategically relevant functions. This aggregated approach, however, did not permit an assessment of the flexibility creating potential inherent in outsourcing decisions separate from the performance evaluation. In response to this, we structured our hypotheses along two steps. Within the first step, the classification of firms' resource reallocation processes into market-touching, market-facing and market-support functions enabled us to hypothesize about the individual market-focused flexibility contributions of each functional category without being forced to assign an evaluation of the value to the outsourcing business practice. In doing so, we were able to provide answers to the, so far empirically unsolved question of in what way the outsourcing of these three different functional categories would contribute to the creation of market-focused flexibility. In a separate second step, we assessed the performance implications of such reallocation decisions. Figure 4 provides an overview of the hypotheses of our structural model.

The popular 'grey' consulting literature identifies firms' core activities as those that are the main revenue generators. Accordingly, firms are advised to outsource the remaining activities as they are considered to be only supportive in nature. Lankford & Parsa (1999 p. 310) recommended outside contracting for support activities if service providers are able to complete the job faster, at a higher quality or cheaper. Similarly, Delmotte & Sels (2008 p. 557) suggested the outsourcing of transactional and operational activities which releases resources to concentrate on the strategic activities that add more value. Managers of outsourcing firms have been found to be more risk averse and thus seek additional flexibility advantages (Gilley et al. 2004 p. 126). Managers may, as a result, start to consider the creation of flexibility by means of external sources when they do not trust in the sufficiency of their internal flexibility. Observing resource-poor firms, McIvor (2009 p. 52) advised against accumulating resources in market-support activities because this diverts them from the critical market-directed areas that create competitive advantage.

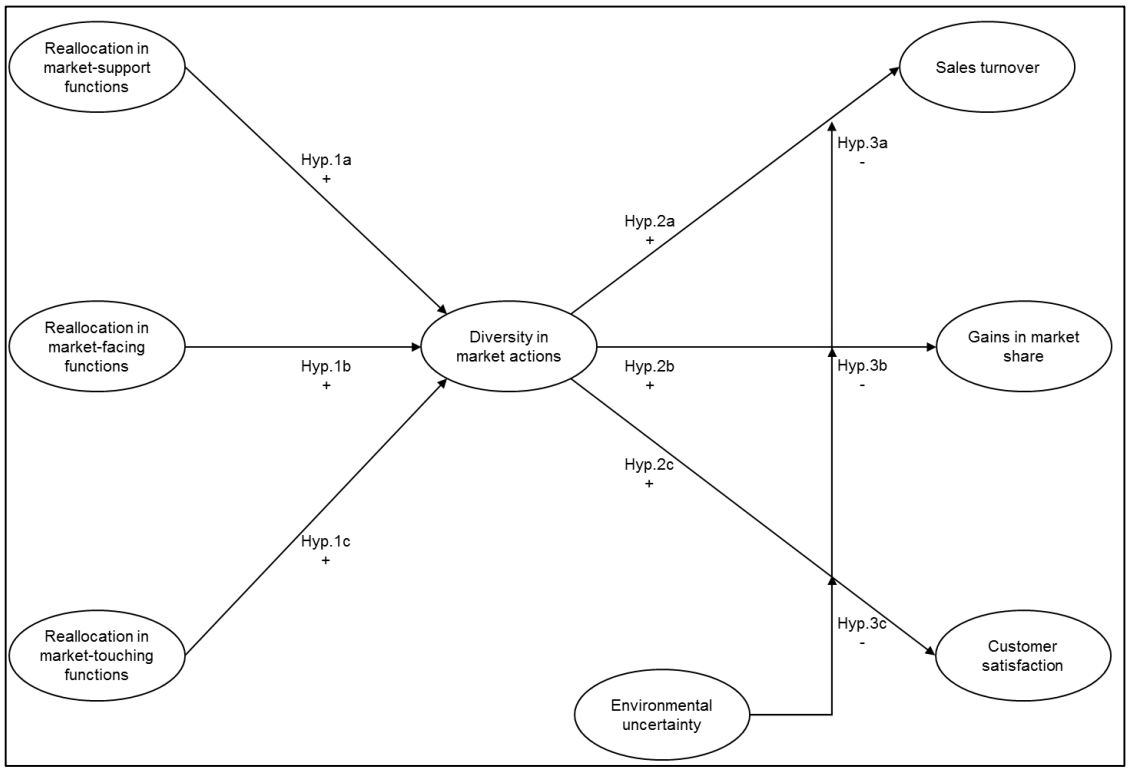

Figure 4: Structural model (study I)

It follows that firms which outsource market-support activities could concentrate on leveraging the truly important functions internally while allocating the market-support activities to external providers. This is because the risk of customer-dissatisfying malperformance appears to be negligible as these services can be precisely specified and highly standardized. We emphasize that firms must direct their managerial attention to activities that have an impact upon the value perception of current and potential customers and suggest that firms outsource market-support functions not only to be immediately more flexible in these market-support activities. They also do so because, for these functions, the reallocation of resources to external providers releases internal resources that can be directed towards the relevant market-linking activities. This would enhance flexibility from the inside out. Therefore, the prudent resource reallocation of market-support activities to external providers has multiple benefits. Within certain limits, it buffers the firm from environmental dynamics and thereby helps it to be adaptable and capable of changes with respect to the intensity, nature and scope of the market-support services. This is mainly because it converts fixed into variable costs. Beyond this, it could also have the potential to boost firms' diversity in market actions by releasing some resources that could provide additional degrees of freedom for more market relevant activities. It internally frees experts from administrative tasks in order for them to assume more market-focused and strategically relevant value-adding roles (Adler 2003, Delmotte & Sels 2008, Gilley & Rasheed 2000, Maurer & Mobley 1998, McIvor 2005, Quinn & Hilmer 1994, Switser 1997). A lower resource commitment, in turn, increases the probability that firms have a greater internal freedom to assign resources to the right place, at the right time which enhances the diversity of market actions. It reduces investments in non-value generating

facilities and thus prevents firms from drowning in fixed costs tied up in non-market-effective activities. Above, we argued that firms' market actions constitute the visible manifestation of their flexibility creating processes. Based on this, we propose that firms which temporarily expand their reallocation processes of their market-support activities to outside providers will free resources to concentrate on the more sophisticated, market-linking activities. Assuming that there is a functional relationship between the creation of flexibility through resource reallocation decisions to external service providers and the diversity in market actions as the visible manifestation of the created flexibility, we suggest that the outsourcing of market-support functions results in greater market activity for corrective or even exploitive purposes, i.e., a greater flexibility.

Hyp. 1a: *The greater the level of reallocation of market-support functions to external service providers, the greater the diversity in market actions.*

The fact that market-facing activities are more central to the value perception of customers although they do not directly come to the fore for them, makes them an interesting object for outsourcing-based research. They are close to but not core activities. For them, as a result, the conflict between the desire to be able to handle unexpected market changes and firms' risk of losing their differentiating touch on the market clearly applies. Firms that carry out their market-facing activities internally can draw on the benefits of in-depth market insights to ensure customer pleasing products and services. On the other hand, these firms also face the risk of being unable to immediately respond to changing customer needs when their internal resource capacity does not allow for the strategic freedom required to rapidly please market demands. McIvor (2009 p. 53) revealed evidence that firms outsourced certain activities although they considered them as critical for competitive advantage. Insinga & Werle (2000 p. 59) found that firms have categorized more and more activities as basic, i.e., considered them as potential candidates for outsourcing. These actual outsourcing practices indicate that in certain situations, the risk of assigning market-facing processes to external providers appears to be viable. It seems as if firms have increasingly solved the conflict between the desire to deal with unexpected market changes and the fear of handing over some of the customer-pleasing responsibilities to a third party in favor of the former. For us, this is reasonable and becomes possible because market-focused flexibility itself can turn out to be a strong differentiating factor. This is because it enables firms to rapidly adjust to market requirements such as fluctuations in the demand pattern before competitors can do so. Firms that want to defend or expand their competitive position need to keep pace with or even hurry ahead of these changes. They generally do so by re-allocating their resources accordingly, in other words, they need to leverage their resource strength in areas that can have an impact on the firm's competitive market position. Nevertheless, firms may occasionally suffer from capacity bottlenecks. Outsourcing has been explained by the overexploitation of firms' internal resources which becomes a trigger for sub-contracting decisions to temporarily access additional resources (Espino-Rogriguez & Padron-Robaina 2006 p. 52). In our case, the

lacking resource appears to be time since our narrow definition of outsourcing intentionally excluded expertise- and capability-seeking sourcing patterns. Given the time bottleneck, firms are advised to internally concentrate on activities that are visible and important in the eyes of the customer while allocating activities that have only latent customer relevance but for which an internal creation would consume too much time to deliver customer pleasing results to external providers (Prahalad & Hamel 1990, Quinn & Hilmer 1994). We believe that the outsourcing of market-facing activities creates real options that allow firms to actively manage the strategic bottleneck of time. It provides on-demand access to additional resources and therefore market-focused flexibility for serving customer needs and wants faster than competitors. Firms that choose this path stand out in the crowd of competitors because they are able to quickly adapt to changed market demands by drawing on additional flexibility that is created through resource reallocation processes which involve external parties. We propose that firms which, at times, consider outsourcing for parts of their market-facing activities can generate operational flexibility which abounds in a greater diversity in market actions, i.e., greater market flexibility.

Hyp. 1b: *The greater the level of reallocation of market-facing functions to external service providers, the greater the diversity in market actions.*

Outsourcing publications have frequently employed TCE to provide guidance on cost-economizing governance modes for specific activities (Williamson 1985). In our case, though, TCE would recognize outsourcing decisions for flexibility reasons, although strategically valuable, as inefficient simply because TCE has not been designed to capture the customer value-enhancing potential of market-focused flexibility. It overlooks the entrepreneurial perspective de rigueur in competitive dynamic markets (Cox 1996 pp. 60/61). Although there are many activities that are potential candidates, resource-based proponents have argued that some activities do not lend themselves to outsourcing. For them, firms' outsourcing decisions depend on how strategically relevant the activity is (Espino-Rogriguez & Padron-Robaina 2005 p. 708). McIvor (2009 p. 53) stated that activities have a strategic nature if they are important in the eyes of the customer and act as a source of differentiation for the firm. Consistently, firms' outsourcing decisions seem to depend on the importance that customers directly or indirectly attach to the ability to immediately respond to their needs and wants. This logic is especially true for market-touching functions. Firms value these functions because they have a high impact to please the customer or respond to the market demands and marketing-based firms consider them as ways to shape customers' value perceptions (Espino-Rogriguez & Padron-Robaina 2005 p. 709). Researchers have frequently recommended that firms must internally concentrate on critical market-touching activities such as branding, targeting and segmentation, positioning and the related communication activities even though there are more capable suppliers (McIvor 2009 p. 53, Saunders et al. 1997). Still, this does not imply that firms do not need to be flexible in their market-touching activities. Quite to the contrary,

the direct customer-link of market-touching functions also means that firms are especially interested in holding flexibility in these activities. The reallocation towards external sources in order to create flexibility and thus rapid market responses could therefore be extremely attractive for firms. This rests on the fact that market differences arise not only from different capability qualities but also from the timing of their use. With respect to market-touching functions, this in turn means that firms must use the respective 'capabilities sooner, more astutely, more fortuitously than the competition' (Eisenhardt & Martin 2000 p. 1117). Recalling the outlined differentiating potential of market-focused flexibility that sets the flexible firms apart from their competitors, similar to hypothesis 1b, we argue that firms aim to solve the conflict between the immediate fulfillment of unexpected market demands (i.e., market-focused flexibility) and the danger of losing control over their own market activities in favor of the former. This is because they aim to use the market-focused flexibility arising from the outsourcing of market-touching functions. It is anchored in the hope that the outsourcing of parts of their market-touching activities can enhance the extent of timely market responses to outpace competitors and thereby differentiate from less flexible competitors. We are aware that this argumentation seems to be in severe contrast to the conclusions of the majority of outsourcing recommendations that strategically valuable activities should be kept inhouse. Note, however, that these recommendations can be misleading in our case as they solely rest on performance-oriented reasoning. We, in contrast, have decomposed our outsourcing analysis into pure flexibility effects and performance implications. We aim to understand the flexibility creating potential of outsourcing decisions for market-touching functions first and continue theorizing on the performance implications within a subsequent second step. Hence, we propose that the outsourcing of market-touching functions positively affects market-focused flexibility that abounds in a greater diversity of market actions because firms in time-based competition try to differentiate from their competitors by means of a higher speed of creating diverse market actions.

Hyp. 1c: *The greater the level of reallocation of market-touching functions to external service providers, the greater the diversity in market actions.*

We were not only interested in the capability to rapidly initiate resource reallocation processes and the directly resulting market activity that make market-focused flexibility a desirable business objective. To be valuable, the resulting market actions of flexible firms must also effectively please the market in real-time. Flexibility can only lead to competitive advantage when firms have used it to initiate the *right* business processes (Narasimhan & Das 1999 p. 684). We have opted for a two-step approach in order to shed light on the *rightness* of business processes. Now, we assess the performance implications of outsourcing specific functions for flexibility reasons. Although many researchers have established direct links between flexibility and performance (e.g., Gupta & Somers 1996, Swamidass & Newell 1987) or between outsourcing and performance (Gilley & Rasheed 2000, Gupta & Zhender 1994, Klaas 2003, Murray et al. 1995, Teng et al. 1995) our

model reflects an indirect reasoning as we have included an implicit model hypothesis that there is no direct relationship between the firms' dynamic capability to initiate resource reallocation processes (i.e., its flexibility creation) and market-focused performance outcomes. Flexible firms that do not make use of their flexibility potential are unlikely to show above average market-focused performance. This is because flexibility is not an end in itself. Competitive advantage does not directly result from the allocation of more resources (financial, managerial, time) to the customer-value enhancing areas. In order to be truly flexible, firms must make use of their greater strategic freedom via the deployment in market actions. Given the various reallocation processes, to be successful in terms of performance, firms must ensure the market-focused harmonization of all processes and decisions that are involved in the creation and use of flexibility. In fact, for a positive performance impact of flexibility, the 'resource changing propensity' (Barreto 2010 p. 272, Rosenbloom 2000) is a sine qua non but its value only unfolds in the presence of managers transferring the generated options into market actions. Market actions, such as new product launches, sales or communication campaigns are immediately visible to the market and can help to assure customers of the superiority of the firm's products and services (Gjerde et al. 2002, Govindarajan & Kopalle 2006, Lau 2002, Moore 2002). While they ensure the realization of flexibility, this realization must be deployed effectively (Evans 1991, Slotegraaf et al. 2003 p. 296).

Above, we have hypothesized a flexibility creating potential for the selective outsourcing of market-support, market-facing and market-touching functions. Although aspirational at first glance, we believe that this will not routinely translate into positive market-focused performance outcomes for the outsourcing of each of the three functional groups. By means of reallocation processes and different combinations, firms may generate a nearly unlimited range of market action alternatives and options. Economic and increasingly also strategic constraints, however, limit the pursuit to a smaller number of promising options available within the consideration set because there are several direct and indirect costs associated with the creation, maintenance and usage of flexibility (Carlsson 1989 p. 184, Jack & Raturi 2003, Kickert 1985, McKee et al. 1989, Sanchez 1995, Young-Ybarra & Wiersema 1999 p. 444). The direct costs of the resource reallocation to external service providers are related to the cost of the external providers' service offer. For this, there are numerous empirical evidences that outsourcing can be a cost-efficient choice (Bettis et al. 1992, Winkleman et al. 1993). We therefore neglect the direct costs and focus on the indirect costs arising from possible concessions of the firm's differentiation potential. Firms that have lost their unique selling points will experience a declining market acceptance. We suggest that the degree of market acceptance can be captured by the ability to generate sales turnover, growth in market share and customer satisfaction. High levels of firms' sales turnover per employee show that firms act effectively on the market without sacrificing productivity (Vorhies et al. 2009 p. 1316). The ability to generate profitable sales volumes confirms that the *right* business processes have been chosen to attain advantageous market positions and that the firm will not run out of resources to fund

further growth. Firms can increase their market share when they are able to continuously provide customer value enhancing market actions to current and potential customers. Gains in market share thus indicate that the market accepts and values the market exchange with the firm. Firms that gain market share are more competitive than their rivals in attracting and retaining customers (Oktemgil & Greenly 1997). This means that, in the minds of the customers, the actions taken by the firm have been effective to enhance the value of its products and services (Dutta et al. 1999). This growth is important because it can positively affect bottom-line performance without forcing firms to increase prices or lower costs (Helfat et al. 2007). Gains in market share can lead to financial performance when they rest on customer-pleasing advantages rather than short-term pricing tactics. Marketing actions have been found to influence customers' attitudes and value perceptions (Jedidi et al. 1999, Rust et al. 2004a p. 81). For Johnson (1992) flexibility is the ability to produce goods and services at short notice that are appreciated by customers. Flexible firms quickly answer to the unique wants of the market and provide appreciably superior customer value propositions (Allen & Pantzalis 1996, Johnson et al. 2003). This means that firms are challenged to retain a high quality of their market offers and provide superior customer value propositions because customer satisfaction only results when the firms' market actions meet or exceed customers' expectations, tastes and desires (Johnson et al. 2003). While firms may be able to deploy a great diversity of actions on the market, these actions may not necessarily meet the customers' expectations and can result in unfavorable value perceptions. For us, sales turnover, growth in market share and customer satisfaction are therefore the three key indicators that reflect the effectiveness of firms' customer pleasing deployment of market actions and thus indirectly the market-focused performance of managers' resource reallocation and synchronization efforts.

With regard to performance considerations, outsourcing has been recommended if service providers complete the job at a higher quality or faster (Lankford & Parsa 1999 p. 310). *Market-support functions* can precisely be specified and highly standardized and do not directly impact upon the value perception of current and potential customers. Kept within limits, we argue that the outsourcing of market-support functions does not disturb the firm's smooth operations. Rather, we expect that it enhances the market performance in terms of sales turnover, gains in market share and customer satisfaction since internal resources are not overstrained by non-market-based tasks. Outsourcing of market-support functions releases resources to invest in the customer value enhancing functions. This implies that firms must commit less of their valuable and scarce resources to activities that do not have customer value enhancing potential. The outsourcing of market-support functions is possible because customers do not expect or appreciate an above standard quality in market-support processes. We therefore hypothesize a positive effect of outsourcing market-support functions on the three performance outcomes.

Researchers have claimed that in the absence of environmental uncertainty flexibility loses some of its value (e.g., Weiss 2001). This is true for the transformation of the created

flexibility into corrective market actions but it does not apply for the use of flexibility for exploitive market actions. During relatively calm periods, customers' are used to a constantly high product and service quality and they are only satisfied if they receive what has been promised. Firms that want to impress their customers must therefore go the extra mile. Thus, firms in industries that rest on time-based competition may also wish to have flexibility for exploitive market actions to surprise the market even during calm environmental conditions. Since all competitors aim to deliver high quality during relatively calm periods, firms can only arouse the attention of additional customers by surprising the customer with the speed of a novel combination of market actions. By drawing on external resources, they could impress present and potential customers with their ability to rapidly initiate a greater diversity of market responses than competitors. However, they must be aware that the outsourcing of *market-facing functions* bears some risk of not fully delivering the value propositions as promised. This could adversely affect customers' value perceptions because activities in market-facing functions leave certain degrees of freedom to the service provider. Nevertheless, in calm environments the risk of malperformance appears manageable because market-facing activities shape customer perceptions only indirectly and the outsourcing firm could fix potential service shortfalls of their external providers if necessary. We therefore expect that these positive speed-effects outweigh potential losses caused by sporadic failures of the service supplier to provide satisfying services. We argue that the carefully selected outsourcing of market-facing functions can help to create the necessary flexibility to initiate a greater diversity in corrective and exploitive market actions which enhances the customer value perceptions. Therefore, we propose a positive link between diversity in market actions created by the outsourcing of market-facing functions and gains in the three market performance types.

Managers are challenged to identify and pick appropriate resource candidates. For the outsourcing of *market-touching functions* this implies that the market exchange actions resulting from selected resource contributions of external service providers must meet or exceed the market needs in order to increase performance. This is unlikely in rather calm environmental conditions where all competitors concentrate on offering the utmost quality to their customers. Firms must ensure that the outsourced activities will be fully effective to develop, stimulate, actively manage and exploit the target market. For market-touching activities which significantly shape the customers' value perceptions and create a differentiation of a higher level than competitors (McIvor 2009 p. 52), the ability to be adaptable and capable of change in a timely manner is not sufficient. It must be combined with the utmost focus on the needs and wants of the market. We believe that this combination, i.e., the customer value enhancing finishing touch, can only evolve within the boundaries of the firm based on the firm's unique mission-critical know-how. The outsourcing of market-touching functions on the grounds of flexibility-seeking behavior is likely to jeopardize the long-term foundation on which the firm's competitive advantage rests. Here, timely market actions will not pay off the possible damages of disappointed customers. For such activities, the creation of flexibility via external resources is possible

but regarding the value contribution, it would not be prudent because it does not generate promising performance outcomes. We therefore argue that enhanced reallocation processes of market-touching activities towards external sources are counterproductive for the three market-focused performance outcomes. Although it leads to greater degrees of freedom in market actions it does not fulfill the unique needs of the customers as the finishing touch is missing. We thus expect a negative impact of outsourcing market-touching functions on performance outcomes.

With regard to the combined hypotheses with the overall effects, we hypothesize that the positive effects of market-support and market-facing functions will outweigh the negative consequences of outsourcing market-touching functions. This may especially be the case as market examples show that the outsourcing of market-support and market-touching functions regularly accounts for the largest share of the overall outsourcing volume. Overall, we thus hypothesize that the relationship between the diversity in market actions and gains in the three market performance types will be positive.

Hyp. 2a: *The greater the firm's diversity in market actions due to resource reallocation processes to external service providers, the more enhanced the effect on the generation of sales turnover.*
Hyp. 2b: *The greater the firm's diversity in market actions due to resource reallocation processes to external service providers, the more enhanced the effect on the gains in market share.*
Hyp. 2c: *The greater the firm's diversity in market actions due to resource reallocation processes to external service providers, the more enhanced the effect on customer satisfaction.*

DeLeeuw & Volberda (1996 p. 129) argued that flexibility is not a characteristic of a firm itself. It must rather be perceived as a characteristic of the relationship between the firm and its environment. The researchers concluded that the misunderstanding rests on the fact that flexibility only becomes visible in the actual behavior of the firm. Being located at the interface, our structural model of market-focused flexibility links adaptive capabilities, market activities, performance and the external environment (Volberda 1998). Since firms do not operate in a vacuum they are confronted with varying degrees of change in their environment (Donaldson 2001). For a study on flexibility, this inevitably means that the attributes of the environment that is surrounding the firms cannot be left unattended. The changing intensity, duration and scope of environmental turbulence cause high uncertainty. Market-focused flexibility endows firms with greater degrees of freedom in the choice and deployment of corrective or even exploitive market actions. For Gilley & Rasheed (2000 p. 771) the benefits of outsourcing increase as the level of change in the environment grows and Gilley et al. (2004 p. 121) found support for the hypothesized positive relationship between perceived environmental dynamism and the level of outsourcing. Similarly, Abraham & Taylor (1993 p. 7) found evidence of a positive link

between demand volatility and the propensity to outsource certain services. These study findings support our argument that outsourcing can contribute to enhanced flexibility especially in turbulent environments. Still, researchers are left in the dark when it comes to the consequences of market actions in an outsourcing context and their effect on customers' value perceptions during turbulent times. Flexible firms have been described as the ones for which 'an increase in the diversity of the environment yields a more desirable change in performance (i.e., a higher increase or a lower decrease)' (Groote 1994 p. 933-934). A firm is more flexible if it generates more profits or smaller losses while moving to a new position (Marschak & Nelson 1962). In turbulent environments, market demands and customer needs change quickly so that positive performance outcomes are continuously challenged by unexpected market events. This implies that market-focused flexibility becomes an extremely valuable asset. Firms that satisfy the needs and wants of the customers have frequently been related to enhanced performance (Szymanski & Henard 2001). Yet, this is challenging since the frequency of market change is high and unpredictable. We believe that in uncertain environments, the concern is not anymore with the resource inimitability and non-substitutability as, over time, both foundations of sustainable competitive advantage have already been knocked out by the turbulent market events. More importantly, the value of former key resources and capabilities can approach zero independently of deliberate management activities (Bowman & Ambrosini 2003 p. 291). Thus, in turbulent environments, the strategic logic seems to be opportunity and rapid action rather than continued leverage (Eisenhardt & Martin 2000 p. 1118). It follows that it is more realistic to assume short-term competitive advantages where managers create a series of temporary advantages at the right time (Eisenhardt & Martin 2000 p. 1118). This is where rapidly initiated market actions can unfold positive effects. We argue that firms must not be unduly afraid of a strategic know-how drain to the market since the experience of the success of past organizational actions becomes rapidly outdated and can therefore not be an indicator for the success of future decisions (Nadkarni & Narayanan 2007 p. 248). It follows that the costs of potentially losing parts of the differentiating factors are rather low and can be compensated by the ability to serve customer needs and wants faster than competitors. In times of environmental uncertainty, the effect of flexibility on performance will be strong as firms that answer the unique market demands sooner, better and more astutely can outpace competitors (Eisenhardt & Martin 2000). While the performance outcomes of the non-flexible market participants would significantly suffer and could even turn negatively under these conditions, we expect them to decline only marginally in firms with a greater diversity in market actions because the flexibility effect of the greater action diversity compensates great parts of the performance declines caused by uncertainty. Therefore, we propose the following hypotheses:

Hyp. 3a: *Environmental uncertainty moderates the effects of firm's diversity in market actions on the generation of sales turnover. The positive effect of diversity in market actions on the generation of sales turnover will decrease but will remain positive the greater the environmental uncertainty.*

Hyp. 3b: *Environmental uncertainty moderates the effects of firm's diversity in market actions on the gain in market share. The positive effect of diversity in market actions on the gains in market share will decrease but will remain positive the greater the environmental uncertainty.*

Hyp. 3c: *Environmental uncertainty moderates the effects of firm's diversity in market actions on customer satisfaction. The positive effect of the diversity in market actions on customer satisfaction will decrease but will remain positive the greater the environmental uncertainty.*

4.8. Methodology

4.8.1. Context and Sample: Industry Setting

To test our hypotheses, we searched for a research object and an environment characterized by environmental uncertainties, competitive pressures and high customer expectations. We opted for the global automotive industry because in this durable consumer goods industry, sales volumes are highly vulnerable to competitive or economic changes and quickly deviate from the beaten track which causes capacity concerns and sales volume pressures (Diez 2006 p. 20). The automotive industry has traditionally been known as a highly competitive sector with a high industry clockspeed where competitive forces do not remain stable and reliable (Diez 2006, Fine 1998). As a result of saturation effects, the mature automotive markets have suffered from a low munificence. In the emerging markets, in contrast, the strong market growth is still not sufficient to cater for the ambitious growth plans of the individual manufacturers. Despite their more flexible manufacturing systems, these regional challenges cause extreme pressures to achieve optimal capacity utilization levels of the manufacturing plants to keep the fixed production costs per unit down. Hence, in either direction, deviations from the production-determined plans cause serious pressures on the industry's local marketing, sales and distribution firms (in the following named local sales units or firms) to either push the excess units into the market or calm and retain customers during times of capacity constraints and delivery delays. With regard to the downstream sales and marketing activities of the manufacturers, the automotive oligopoly pattern implies intensifying competitive pressures and necessitates high response rates to competitors' market moves (Rennhak 2009 p. V). As a result, further market pressure, greater competitive rivalry and profitability concerns frequently plague this industry. More recently, manufacturers have started to discover the value driving merits of a flexible market-focused distribution system (Throll & Rennhak 2009 p. 76). Indeed, manufacturers must not only assure a market-focused development and manufacturing of their products. Their products and services must also be physically delivered to the customer and the value of the products and services must be brought to the customers' attention by attaching additional intangible value propositions. In order to maintain or improve competitiveness, researchers have started to consider the importance of delivering superior customer value propositions besides the creation of customer value through the manufactured product per se (Johnson et al. 2003, Naumann 1995, Parasuraman 1997, Stahl et al. 1999, Woodruff 1997). To bridge the gap between the local market

needs and the distanced headquarters, manufacturers in many durable consumer goods industries (e.g., automobile or home appliance industry) have installed local sales units to actively control the local brand development path. Instead of contracting third party agents, these local units are designed to focus on the critical market-linking activities such as brand management, targeting and segmentation, competitive positioning and differentiation, communication, sales and market coverage planning for the exploitation of market potentials, sales, service and support quality assurance, product distribution and in general active market management (Dannenberg & Joas 2003 p. 507, Kraus 2005 p. 95, Rosenbloom 2004 p. 42ff, Smend 2003 p. 120f). Their aim is to develop, connect, stimulate, actively steer and qualify the local markets (Börner 2002 p. 36). In their role as brand translators at the interface of production and consumption, these firms must transfer the brand values and the unique brand message downstream to the customers and communicate the market needs and wants upstream to their manufacturers. They consequently assume an important value-adding strategic role in the distribution channel (Kotler 1986). We selected this industry setting because the core processes of the examined business units are typically customer- and market-oriented and the environmental surrounding is highly competitive and uncertain (Welge & Holtbrügge 2006 p. 147). We believe that this setting is representative for other competitive industries plagued by environmental turbulence and that it is highly insightful to analyze the impact of such settings on the need for and the creation, use and outcomes of flexibility.

4.8.2. Data Collection

Our sample comprised of data collected from local sales units of five different globally operating manufacturers. In accordance with the construct development recommendations of Rossiter (2002), these brand business units were classified as concrete singular objects that formed our unit of analysis. To ensure validity, our measurements relied on an intensive literature review and rested upon a strong theoretical foundation. The reliance on subjective measures has often been disputed because perceptive, self-reported responses can be prone to bias (Johansson & Yip 1994). Despite these warnings, the majority of reviewed scales in literature continued to be perceptual in nature. In response to this, we opted for objective, concrete data from archival sources of the firms. To assure content validity, we aligned the conceptual meaning and contents of the reviewed perceptual measures with our objective measures to meet the theoretical rational. Moreover, for a limited time, one of the researchers gained intensive industry experience while working together with the automotive managers in their daily business in the headquarters. During this period, the researcher assisted managers who were adept at the management and governance of the local sales units all over the world. These solid industry insights made it possible to reduce the reliance on formal industry expert interviews in favor of the transfer of tacit knowledge via informal but highly meaningful discussions with experts. During the content specification and validity assurance phase, frequent unstructured discussions with the automotive managers constituted an important part of our model development and refinement process. This experience helped us to conceive the constructs and

measures, to see through them, and to advance to the very meaning of the research problem. In doing so, on the construct level, we ensured that we captured what we intended to capture (Henseler et al. 2009). On the indicator level, we assured face and content validity. Drawing on the managers' expertise, we carefully selected our manifest indicators to capture the full scope of the latent variables. Compared to the general research practice, our approach constituted a significant enrichment of the data collection and construct and indicator development. We successfully obtained data of 62 different local business units in 19 countries for the year 2010 due to our close working relationship with the manufacturers and their local business units. We received 37 responses from European business units, 11 data files from Pacific Asian divisions, 3 African and 10 responses from North, Central and South American units. Based on our efforts to establish a close relationship with the firms, our data request resulted in a very satisfying response rate of above 80% (62 of 76 originally contacted business units; Menon et al. 1999). We received a high data quality and initially missing data was provided upon our requests so that there was no need to use imputation techniques that could have been data distorting (e.g., Hair et al. 1998).

4.8.3. Descriptive Statistics

To provide insights into the descriptive statistics of the data set, we report the mean values and the standard deviations of the latent variables in Table 1. On average, the observed business units had 113 employees and were small to medium in size with an annual turnover of about 655m €. We present the bivariate correlations of the latent variables of the model in Table 2. The correlation matrix in Table 2 supported the hypothesized positive correlations between the three different types of resource reallocation practices and diversity in market actions. The resource reallocation to market-support activities variable had the strongest correlation to market diversity ($r = .251$, $p < .10$). We also found strong positive correlations between diversity in market actions and sales effectiveness ($r = .447$, $p < .01$) and customer satisfaction ($r = .372$, $p < .01$). There was no indication of direct, positive and significant correlations between the three flexibility creation constructs and ultimate performance outcomes. These descriptive findings were in line with our research model that assumed that only the deployment of the created flexibility by means of market actions would result in performance outcomes. Table 3 provides an overview of the constructs' definitions, conceptualizations and measures.

Variables	mean	sd
Reallocation in market-touching activities	.0105	.01
Reallocation in market-facing activities	.0534	.08
Reallocation in market-support activities	.0111	.01
Diversity in market actions	2.73	4.04
- market signaling, advertising & communication-related actions[1]	46.96	78.34
- sales related pricing, promotion and positioning actions[1]	53.74	74.84
- new product launch actions[1]	3.58	2.74
- product modification actions[1]	31.08	39.99
Market-focused performance: sales turnover	5.69	3.60
Market-focused performance: gains in market share	.01	.01
Market-focused performance: customer satisfaction	4.39	3.02
Environmental uncertainty	1.30	1.21
Age	26.27	2.40
Size	113.58	135.02
1 = based on manifest variables. The scale differences have been compensated in the estimation of the formative concept (standardization).		

Table 1: Descriptive statistics of the business units (based on latent variable scores) (study I)

		1	2	3	4	5	6	7	8	9	10	11	12	13
1	Reallocation in market-touching functions	1												
2	Reallocation in market-facing functions	.238	1											
3	Reallocation in market-support functions	.398 (***)	-.124	1										
4	Diversity in market actions	.112	.212	.251 (*)	1									
5	Sales turnover	.156	-.045	.159	.447 (***)	1								
6	Gains in market share	-.035	.173	-.118	-.154	.119	1							
7	Customer satisfaction	-.083	-.114	-.086	.372 (***)	.192	-.356 (***)	1						
8	Environmental uncertainty	.241	-.090	.081	.027	.074	.069	.146	1					
9	Interaction term: market actions * environmental uncertainty (sales turnover)	.122	.115	-.208	.095	.251 (**)	-.018	.104	-.063	1				
10	Interaction term: market actions * environmental uncertainty (gains in MS)	.064	-.074	-.086	.055	-.048	.137	-.095	-.126	.140	1			
11	Interaction term: market actions * environmental uncertainty (customer satisfaction)	.0136	.101	-.187	.114	.266 (**)	-.088	.185	.081	.921 (***)	-.160	1		
12	Age	.274 (**)	-.111	-.003	-.215	.155	.150	-.044	-.043	.265 (**)	.087	.166	1	
13	Size	.048	-.128	-.001	.149	.154	-.149	.166	-.216	.084	-.004	.085	.338 (***)	1
* = correlation is significant at the .10 level (2-tailed); ** = correlation is significant at the .05 level (2-tailed); *** = correlation is significant at the .01 level (2-tailed); MS = market share														

Table 2: Bivariate correlations among the latent variable scores of the moderated model (study I)

Construct	Definition	Measures	Data source
Outsourcing of business unit functions			
Resource reallocation in market-touching activities	All functions which are exposed to a considerable market contact and that link the firm to the market by establishing uni- or bidirectional market exchanges.	Amount in mio. euros outsourced for customer service & support functions, sales management functions and advertising & communication activities of the business unit relative to the unit's total fixed costs in mio. euros.	- profit and loss statement of the business units - individual written out-sourcing feedback of the business units
Resource reallocation in market-facing activities	All business functions that shape the customers' value perception without directly touching the market because they do not directly come to the fore for the customers.	Amount in mio. euros outsourced for market research & analysis, physical distribution of spare parts and vehicles, dealer & distribution network management, technical dealer/customer services & support and quality management functions of the business unit relative to the unit's total fixed costs in mio. euros.	- profit and loss statement of the business units - individual written out-sourcing feedback of the business units
Resource reallocation in market-support activities	All administrative and backoffice functions executed at a greater distance to the market and invisible to the customer.	Amount in mio. euros outsourced for administrative activities, accounting, procurement, legal advice, HR, business development, training & coaching and IT support and database management of the business unit relative to the unit's total fixed costs in mio. euros.	- profit and loss statement of the business units - individual written out-sourcing feedback of the business units
Diversity in market actions	The degree of diversity in firms' externally directed, specific and observable newly created moves initiated by a firm to enhance its competitive position (Ferrier et al. 1999 p. 378).	Formative composite measure that is a linear combination of market signaling, advertising & communication-related actions, sales related pricing and positioning actions, new product launch related actions and product modification actions.	
	a) Market signaling, advertising & communication-related actions	Number of campaigns as stated in the business unit's media plan for the specific financial year.	- brand headquarters
	b) Sales related pricing, promotion and positioning actions	Number of sales incentive related pricing and positioning campaigns approved by the headquarters' finance during the year.	- brand headquarters
	c) New product launch actions	Number of new product launches by the business unit in the respective financial year.	- brand headquarters
	d) Product modification actions	Number of vehicle model modifications of the manufacturer that the business unit has to establish in the market. Calculated as the first difference in the number of vehicle identification numbers (i.e., the specification of the engine-transmission-equipment combination) in the present year as compared to the prior year.	- brand headquarters
Moderator effect: Environmental uncertainty	Environmental uncertainty is the managers' cognitive response to operations in volatile and unpredictable (i.e., turbulent) environments.	Equally weighted formative composite measure of volatility and unpredictability.	
	Volatility	Measure of Hull (1993) to capture the volatility in the 12 months total market vehicle sales per country.	- brand headquarters
	Unpredictability	Time series approach based on the measure of Bergh & Lawless (1998), Dess & Beard (1984 p. 58) and Keats & Hitt (1988) to capture the unpredictability in the monthly growth rates of the total market vehicle sales volume. Growth in monthly volume in month t compared to the respective month in the prior year (t-1) across a 24 month period.	- brand headquarters
Market-focused performance	Sales turnover	Net turnover in mio. euros in 2011 per employee of the business unit at the year end.	- profit and loss statement of the business unit - individual written headcount feedback of the business units
	Gains in market share	Change in market share in 2011 compared to 2010: first difference in the market shares (in percentage points).	- monthly sales volume report of the brand headquarters
	Customer satisfaction	Customer satisfaction in 2011 as evaluated by the industry managers on a scale from 1 to 10.	- area managers of the headquarters
Control variables			
Age	Age of the business unit in years.	Number of years the brand has been represented in the market with an own local sales unit rather than through a sales agent.	- brand headquarters
Size	Size of the business unit expressed in headcount numbers.	Total number of employees in the business unit at the year end.	- individual feedback of the business units
Competitive concentration	Measures the degree of concentration in a market, i.e., the strength of the competition among the competitors.	The four firm concentration index (C4) sums the market shares hold by the four largest market players.	- employment protection legislation (EPL) strictness index of the OECD
Change in consumer confidence	The consumer's expectation of the change in the financial situation of the household, in the general economic situation, in unemployment and in savings of household over the next 12 months.	First differences in the Consumer Confidence Indicator (CCI) of the OECD of the average in 2010 as compared to the mean of the indicator values in 2009. The CCI, as a standardized indicator, allows for cross-country comparisons.	- OECD (2012) OECD.Stat, (database)

Table 3: Summary of the constructs, measures and data sources (study I)

4.8.4. Measurements

Resource Reallocation Processes

Capabilities originate on the firms' operational level. The highly aggregated flexibility measures commonly used in literature tend to mask this aspect because they do not capture the dedicated resource reallocation processes executed inside flexible firms (Ethiraj et al. 2005). We therefore captured the creation of flexibility on the resource level. As a result of our in-depth literature review and several meaningful discussions with the automotive managers, we subdivided the outsourcing processes, i.e., the reallocation of resources to external providers into three distinct abstract formative constructs: 1) resource reallocation in market-touching functions, 2) resource reallocation in market-facing functions and 3) resource reallocation in market-support functions (Diamantopoulos & Winklhofer 2001). In close collaboration with the managers, we assessed the monetary value of the activities that the business units obtained from external service providers for each component of the market-touching, market-facing and market-support activities during the financial year 2010.

Consistent with the marketing-based literature, we took the core elements of the marketing mix, which are product development and management, pricing, selling and marketing communications and distribution management as a starting point to establish the outsourcing components of *market-touching* reallocation processes (McCarthy 1960, Morgan et al. 2009, Vorhies & Morgan 2005). As an outcome of our service marketing literature review, various management interviews and the analysis of the manufacturers' business model-specific process blueprint documents, the traditional marketing mix activities were augmented by a people-based component of customer and retailer service and support activities and reduced by distribution management. The five selected components 1) sales management, 2) marketing, communication and advertising, 3) pricing, 4) product and service management and 5) customer and dealer service & support were concrete in nature. Although pricing is a theoretically well recognized and important element of the mix, in subsequent data processes, we excluded it because pricing activities had not been subject to any outsourcing activities for the units in our sample data. Apparently, the observed firms ascribed high strategic relevance to these activities and therefore retained them in-house. The flexibility creation concept of re-allocating resource in *market-facing* activities was composed of activities related to 1) technical support and services for customers and retailers, 2) dealer & distribution network management, 3) physical distribution of vehicles and spare parts, 4) market research & analysis and 5) quality management. Consistent with the management literature and the firms' process blueprints, *market-support* activities consisted of administrative back office functions and included activities such as accounting, procurement, human resource (HR) management services, training & coaching, legal support, business development, IT support and database management. Within the marketing literature, traditional as well as extended versions of the marketing mix have been described as a collective linear combination of variables (i.e., the marketing mix elements price, product, place and promotion) so that the combined individual

manifest indicators form a broader latent variable (Fornell 1982). Accordingly, we summed all outsourcing activities of the market-touching category for each business unit assigning equal weights so that the resulting latent variable rested on the following calculus (where b_x denoted the amount in euros spent for the outsourcing of this activity):

$$\boldsymbol{Market - touching} = \sum \boldsymbol{b_{sales}} + \boldsymbol{b_{communication}} + \boldsymbol{b_{product}} + \boldsymbol{b_{service\,\&\,support}} \quad (1)$$

We proceeded accordingly with the other two outsourcing variables. Based on the absolute amounts invested for each of the three groups in euros, we captured the level of resource reallocation to external providers based on slightly adjusted measures applied by Nadkarni & Narayanan (2007). We calculated the relative proportion of the outsourcing expenses per category compared to the total fixed costs per business unit during the year in order to create comparability across the local sales units. More specifically, the reallocation capability was computed as outsourcing in market-touching functions divided by the unit's total fixed costs. As fixed costs comprised of personnel costs, overhead costs, fixed marketing expenses, investment overheads and depreciation, they reflected both, the different country-specific price and labor costs levels and the business units' sizes. This composite single-item measure constituted the 'resource reallocation in market-touching functions to external service providers' variable. For the other two groups, the method of calculation was the same. We considered the degree of resources re-allocated to external providers as a proxy for the business units' resource-level flexibility created by means of managers' reallocation decisions to external providers. Our model assumed market actions to be the visible intermediate outcome of these flexibility creation processes. Given the objective nature of our data, we were convinced that the psychometric properties of the three single-item measures were highly reliable and valid.

Diversity in Market Actions

We reviewed the marketing and management literature for appropriate measures of market activity and identified several market actions frequently deployed by firms and found to be relevant by researchers. We used this set of actions as an initial basis for our objective measure (Chen & Miller 1994, Ferrier et al. 1999 p. 378, Nadkarni & Narayanan 2007 p. 257, Oktemgil & Greenly 1997 p. 465). As defined by Ferrier et al., we focused on 'all externally directed, specific, and observable newly created moves initiated by a firm to enhance its competitive position' (1999 p. 378). Our initial set of competitive market actions consisted of sales related pricing, promotion and positioning actions, new product launch actions, product modification actions and market signaling, advertising & communication-related market actions (see Table 3). As the key elements of marketing, they are found to be firms' immediate actions when the environment requires responses. We intentionally excluded distribution and channel management actions because these decisions are executed at the manufacturer level rather than on the business unit level that we observed. To guarantee a fit of these actions to the market demands of the industry

setting, we consulted the regional managers in the headquarters. They reviewed our definitions and descriptive examples for their appropriateness. We adjusted the list based on their comments and suggestions to customize it to the demands of the automotive industry. We believe that this set of competitive actions appropriately reflected the mechanisms by which the sales units translated their newly created or refreshed flexibility capabilities into action. Following this validation procedure, we provided the central marketing and controlling departments of each headquarters with the list of definitions, comprehensive explanations including market action examples and a standard procedure of counting and calculating. In contrast to the widely used structured content analysis in dynamic competition studies to capture firms' competitive actions by screening trustworthy newspaper articles for respective citations (e.g., Chen et al. 1992, Young et al. 1996), we directly accessed the number of competitive market actions by requesting the headquarters to access their archival data for the number of campaigns or actions that were centrally approved during 2010. We obtained the number of market actions for each of the four action types in 2010. To ensure quality and comparability, we offered our support in case of queries during the entire data collection phase and held several phone conferences. In the rare cases where some numbers of market actions were unavailable for the considered business unit the departments approximated them based on the average expenses per campaign per country and the total expenses spent on this specific type of action during 2010.

The Austrian view of economics posits a positive relationship between the range of competitive market actions and performance because firms that are able to rest their strategy on a broader portfolio of competitive actions are more capable and deploy their resources more effectively (D'Aveni 1994, Grimm & Smith 1997, Schumpeter 1934). Finkelstein & Hambrick (1990) argued that it is appropriate to assess the pattern of strategic decision making by examining firms' actions on multiple fronts. They recommended the use of summary measures as they are more meaningful than individual strategic action indicators. Consistently, we created a composite measure of market activity to proxy for the diversity in competitive market actions using the obtained business unit-specific numbers for new product launches, product modification activities, market signaling, advertising & communication campaigns and sales related pricing, promotion and positioning activities in 2010. We specified the construct in a formative way so that the linear combination of the four selected manifest indicators formed the construct (Diamantopoulos & Winklhofer 2001). Thereby, we assigned the respective weight factors according to the inherent PLS model structure and accounted for scale differences using standardization. We correlated the manifest indicators and obtained low correlations among them except for a moderate bivariate correlation between market signaling, advertising & communication-related actions and sales related actions (see Table 4 for the correlation matrix). Multicollinearity can be an issue in formative measurement models. Hence, we further tested the concept of diversity in market actions to avoid unstable indicator weights when running the PLS algorithm and to rule out inaccuracy of the regression coefficients due to serious multicollinearity (Diamantopoulos & Winkelhofer 2001, Jarvis et al. 2003, Mathieson et

al. 2001, Tabachnick & Fidell 2001). We assessed the level of multicollinearity among the four indicators but the VIF and tolerance values of the formative market action construct (Table 4) turned out to be smaller than 2 and greater than .50, respectively. This was by far within the critical thresholds suggested by Diamantopoulos & Siguaw (2006, VIF > 3.33; see also Hair et al. 1998, VIF > 10) or Diamantopoulos & Winkelhofer (2001 p. 272; tolerance < .10). With regard to the relationship of the manifest indicators to the latent variable, we tested the significance of the indicators' regression weights by means of the bootstrap resampling technique while also taking good care of theoretical consistency (Chin 1998, Davison & Hinkley 2003, Henseler et al. 2009, Tenenhaus et al. 2005). Despite the negative weight and/or insignificance of some indicators, we did not remove them to maintain the full content and conceptual meaning of the construct (Jarvis et al. 2003; see Table 5).

	Dependent	Independent variables	R^2	Tole-rance	VIF	Bivariate correlations among the manifest indicators			
						1	2	3	4
1	Advertising	sales, products, modifications	.384	.616	1.624	1	-	-	-
2	Sales	advertising,products, modifications	.432	.568	1.761	.637 (***)	1	-	-
3	Products	advertising, sales, modifications	.000	1.00	1.00	.025	-.026	1	-
4	Modifications	advertising, sales, products	.089	.911	1.098	.104	.296 (**)	-.199	1

* = correlation is significant at a 10% level (2-tailed); ** = correlation is significant at the 5% level (2-tailed)
*** = correlation is significant at the 1% level (2-tailed)

Table 4: Variance inflation factor of the diversity in market actions concept (study I)

Diversity in market actions concept	Outer Weight PLS Model Sample	Outer Weight Bootstrap Sample Mean	Standard Error	T Statistics
Market signaling, advertising and communication-related actions	-.156	-.298	.2332	0.6693
Product modification actions	-.600 (**)	-.531	.2752	2.1803
New product launch actions	.708 (***)	.590	.2501	2.8301
Sales related pricing, promotion and positioning actions	.431 (**)	.412	.2439	1.7688

*= significant at 10%; **= significant at 5%; ***= significant at 1%; one-tailed test, non-parametric bootstrapping procedure with 1,000 samples, 999 degrees of freedom.

Table 5: Weight factors & significance levels of the diversity in market actions concept (study I)

Performance

Previous studies that observed the outcomes of flexibility mainly relied on measures of internal efficiency such as profitability (return on sales, return on assets). We, in contrast, were interested in the market-focused outcomes of the flexibility deployment, in other words, the market effectiveness. We carefully selected three different measures to capture the broad meaning of market effectiveness: 1. gains in market share, 2. sales turnover and 3. customer satisfaction. We lagged the variables one period so that they represented the market performance of the sales units in the following period (2011). We did so because we did not expected a full and immediate impact of the resource reallocation processes and market actions as customers first need to process the stimuli that firms conveyed via

market actions. They were assumed to adjust their value perceptions subsequently. To avoid biased measurements in the market share measure due to size-effects of the different business units, it was calculated as the first differences in the market shares from 2010 to 2011. We used the gain in market share as an indicator of market effectiveness. Some researchers have argued for a trade-off between flexibility and productivity (e.g., Chung & Chen 1989, Dreyer & Grønhaug 2004, Gustavsson 1984, Buzacott & Mandelbaum 1985, Son & Park 1987). We therefore included a market-focused sales effectiveness measure. We took the turnover in 2011 and expressed it per local sales unit's employee at the year end. We chose this measure because the sales turnover appropriately reflects the different price levels of the product mix sold during the year while the relative notation as a proportion per employee allows for comparisons by correcting for size effects. We obtained objective data for all constructs except for a perceptive measurement approach for the dynamics in customer satisfaction since objective measures were not openly accessible. At the end of 2011, we requested the regional managers to evaluate the customer satisfaction for 2011 on a single-item scale based on their archival records and their broad market experience. We did not combine the three manifest indicators to form one aggregated latent variable of market effectiveness to allow for deeper insights into the individual effects.

Moderator: Environmental Uncertainty

Research about environmental change has carefully distinguished volatile from unpredictable conditions because volatile markets do not necessarily need to be unpredictable (e.g., Anand & Ward 2004, Bourgeois & Eisenhardt 1988, Lawrence & Lorsch 1973, Miles et al. 1974, Miller & Friesen 1983, Milliken 1987, Pfeffer & Salancik 1978, Volberda 1998). We assumed managers' environmental uncertainty to be a result of two distinct states of turbulent environments: demand volatility and demand predictability. Researchers have traditionally concentrated on demand uncertainty or product-market uncertainty (Pagell & Krause 2004). Among the environmental uncertainty types that Grewal & Tansuhaj (2001) used, demand uncertainty was considered to be highly relevant for decision making in local automotive sales units while the industry managers indicated that technological uncertainty was more relevant on the manufacturers' level. Demand uncertainty can be seen as a consequence of promotional wars, tough price competition and competitive moves in general (see competitive intensity scale of Grewal & Tanshuhaj 2001). These actions are intended to change the market's demand pattern. We relied on the volatility and unpredictability of the market sales volumes to measure environmental uncertainty and adopted the unpredictability measure of Bergh & Lawless (1998), Dess & Beard (1984 p. 58) and Keats & Hitt (1988). We used monthly market demand data in a time series approach where time was the independent variable and regressed the monthly growth rates in demand on this time variable.

$$\boldsymbol{\Delta Y_i = \beta_0 + \beta_1 * t + \varepsilon} \qquad (2)$$

where ΔY_i was the growth in the monthly total market demand volume in t compared to the respective month in the prior year (t-1) which we calculated as a percentage change, t was the time (a time series variable created in SPSS 14.0 for a period of 24 months) and ε denoted the residual term. We used the 2-year monthly total market demand from January 2009 until December 2010. This 24 month period denoted the short- to medium-term planning horizon of managers in this industry, especially in the aftermath of the financial crisis. Our unpredictability measure was the standard error of the β_1 time coefficient (i.e., the slope). We took the dispersion from the regression line, expressed by the standard error of the slope coefficient of equation 2 because it enabled us to capture the unsystematic changes, i.e., the variations from the trend line that were characteristic for unpredictable markets (Dess & Beard 1984 p. 58). We captured the demand variation from the trend line during a 24 month period to express the degree of unpredictability before and during the resource reallocation observation period because managers base their decisions on the actual level of unpredictability they are exposed to. We were confident that this measure appropriately reflected the degree of unpredictability perceived by managers when making resource reallocation decisions. The higher the value, the greater was the uncertainty in the market environment with regard to the unpredictability of market demand.

Volatility in the total market demand constituted our second component of environmental uncertainty. In their volatility scale, Anand & Ward (2004) asked for the raters' perception of change in the relevant environmental factors. We also captured the rate of change but used Hull's (1993) objective volatility measure which has frequently been applied to fluctuations in stock markets (e.g., see Dreyer & Grønhaug 2004). We took the variability (i.e., the standard deviation) of the relative changes in the monthly total market demand during the financial year, calculated as:

$$\boldsymbol{s} = \sqrt{\frac{1}{n}} \sum_{i=1}^{n} (\boldsymbol{v_i} - \overline{\boldsymbol{v}})^2 \qquad (3)$$

where v_i equaled:

$$\boldsymbol{v_i} = \boldsymbol{ln}(\frac{X_t}{X_{t-1}}) \qquad (4)$$

and x_t denoted the total market demand of the considered country during month t and x_{t-1} accordingly for the previous month. We annualized our volatility measure as follows:

$$\boldsymbol{v_{i\,annual}} = \boldsymbol{v_i} * \sqrt{\boldsymbol{12}} \qquad (5)$$

High values of this measure indicated a high variability in market demand during the observation period while low values suggested little change in the total market demand pattern. We did not hypothesize any quadratic effects in the environmental context factor

(i.e., the multiplicative connection of demand predictability and volatility). Rather, we summed both indicators equally weighted to arrive at the latent variable named environmental uncertainty.

Construction of the Moderator Effects

We applied the product indicator approach to include the moderator effects in PLS (Chin et al. 2003). We used this approach although the formatively specified concept diversity in market actions was involved. We did so to avoid fixing the individually assigned outer weights of the four manifest market action indicators at the weight factors estimated in the latent variable scores of the unmoderated main model. This fixture would have prevented the algorithm of the moderated model from considering the moderating effect during the estimation procedure (Chin et al. 2003, Henseler & Chin 2010 p. 88). Since we did not accept the consequences of this limited-information or two-stage approach, we re-estimated the market action weights in the PLS environment of the moderated model rather than separately introducing the fixed latent variable scores of the main model into the interaction terms. We created the interaction effects hypothesized in H3a-c based on pairwise indicator multiplication. We standardized each indicator to a mean of zero and a variance of one before calculating the product terms of the indicators that were involved in the moderated effects, i.e., market signaling, advertising & communication, sales, new products, product modifications and the moderator variable (environmental uncertainty; Aiken & West 1991, Jaccard et al. 1990).

Control Variables

Our data set stretched across different countries which may have experienced dissimilar economic developments and demand conditions. We therefore controlled for changes in consumer confidence as this constitutes an early indicator for the consumer spending on durables. To eliminate country-specific bias, we calculated the first differences (i.e., the changes in the consumer confidence index from 2009 to 2010) based on data published by the OECD (OECD.stat 2012). We also controlled for competitive intensity since a high concentration of firms in a specific national market as compared to a fragmented market could affect the availability of resources (Emery & Trist 1965). Related to Jaworski & Kohli's argument on market orientation (1993 p. 57), we assumed that resource reallocation decisions to external providers and market actions may be required less when competitive pressure is lower. We assumed that the competitive concentration may have had an impact on the effectiveness the business units' market actions. We used the four firm concentration index (C4) to measure the market concentration (i.e., the strength of competition) by summing the market shares of the four largest market players. Beyond this, the size of the local sales units may have had an effect on their outsourcing decisions and their market activity because larger divisions could have achieved scale effects easier so that they may have had less need to outsource activities. We used the number of the divisions' employees at the year-end as a measure. Finally, we controlled for the age of the business unit since the very young or the well-established units may have had increased

needs for flexibility. While the former may have wished to compensate for resource constraints, the latter may have spawned rigid internal structures that often call for additional flexibility from outside sources.

4.8.5. Model Estimation

We used partial least squares (PLS) to test the hypothesized relationships among the latent variables based on SmartPLS 2.0 M3 (Ringle et al. 2005, Wold 1982). PLS has increasingly been used by marketing and management researchers (Cool & Schendel 1988, Cool et al. 1989, Fornell & Bookstein 1982, Fornell et al. 1990, Johansson & Yip 1994). The PLS algorithm estimates the case-values, i.e., the estimates of the latent variables, and fits these values into the inner structure and the measurement model based on an iterative procedure (Cassel et al. 2000 p. 901). Our rationale for choosing PLS was the explorative and predictive nature of our study (Henseler et al. 2009 p. 282, Fornell & Bookstein 1982). PLS allows for the estimation of the outer measurement model (i.e., the relationships between the manifest indicators and the latent constructs) and the inner structural model (i.e., the relationships between the latent constructs; Chin 1998). It also permits a simultaneous evaluation of all path coefficients (Birkinshaw et al. 1995). In response to the increasing number of publications calling for the careful selection of an appropriate measurement model rather than routinely selecting reflective constructs, we chose PLS because it requires researchers to explicitly specify the nature of the measurements (e.g., Diamantopoulos & Winklhofer 2001, Rossiter 2002). Pertaining to the formative indicators in the measurement model of the main dependent variable (diversity in market actions), PLS is well suited to explain the nature and the weighted linear combination of the manifest variables that defined our measure (Henseler et al. 2009 p. 282). In contrast to the covariance-based approaches (e.g., Lisrel), PLS as a variance-based approach can deal with both, models with reflective as well as formative indicators without experiencing identification problems (Diamantopoulos & Winklhofer 2001, Henseler et al. 2009 p. 282, Nijssen & Douglas 2008, Pinto et al. 2008 p. 160). PLS is distribution free and is thus an appropriate method when the assumption of multivariate normality is not immediately met without the requirement for data transformations that could aggravate the interpretation of the results (Birkinshaw et al. 1995 p. 646f). Finally, there has been evidence that small sample size covariance-based structure equation models (i.e., $n < 200$) could suffer from non-convergence problems and improper modeling solutions while the sample size for PLS-based models can be much smaller without losing accuracy and robustness (Boomsma & Hoogland 2001, Henseler et al. 2009 p. 291). Although researchers have commonly applied thumb rules to determine the minimum sample size (e.g., Barclay et al. 1995), Goodhue et al. (2006) noted that these rules do not account for the size of the effects. In contrast to the widespread assumption that PLS unaffectedly deals with small sample sizes we were aware of a potential issue in the statistical power due to possible asymptotically incorrectness (Henseler et al. 2009, Jöreskog & Wold 1982, Marcoulides & Saunders 2006 p. VI, Schneeweiß 1991). Still, our decision for using a PLS-based algorithm with a rather small sample size rested on our strong belief in the high quality

of the underlying objective data, the explorative nature of our research and the availability of resampling techniques such as bootstrapping to achieve approximately asymptotical consistency.

4.8.6. Partial Least Squares (PLS)-Analysis: Hypotheses Testing Results

Table 6 provides an overview of the hypotheses and Table 7 and Table 8 report the evaluation results of the structural model with the path coefficient estimates. The t-values and the significance levels of the standardized path coefficients have been tested using non-parametric bootstrapping techniques based on 1,000 subsamples with 62 cases and individual sign changes (Chin 1998, Davison & Hinkley 2003, Henseler et al. 2009 p. 307, Tenenhaus et al. 2005).

<u>Control Variables</u>

In the first step, we individually introduced each control variable into the main model in order to observe their influence unaffected by the other control variables. We conducted a PLS-based analysis to detect significant differences in the parameter estimates before and after the introduction of each control variable. We followed the distribution-free non-parametric approach of Henseler et al. (2009 p. 309, originally developed for group comparisons). Our non-parametric PLS choice rested on the insight that not all required parametric assumptions, especially normality, were met in our data set. We conducted two separate runs of the standard PLS path modeling algorithm including and excluding the control variable and generated 5,000 samples for each by means of a bootstrap routine. This procedure assessed the distribution of the obtained bootstrap parameter estimates ($b^{(1)}$, $b^{(2)}$) to test the hypothesis of differences by determining the conditional probability (Henseler et al. 2009 p. 309):

$$\boldsymbol{P}\left(\boldsymbol{b}^{(1)} > \boldsymbol{b}^{(2)} \middle| \boldsymbol{\beta}^{(1)} \leq \boldsymbol{\beta}^{(2)}\right) \tag{6}$$

where $\beta^{(1)}$ and $\beta^{(2)}$ were the true population parameters of model $1_{\text{incl.}}$ and model $2_{\text{excl.}}$. On the basis of the estimates derived from bootstrapping for each model, we calculated the probability of differences in the specific parameter of the two models:

$$\boldsymbol{P}\left(\boldsymbol{b}^{(1)} > \boldsymbol{b}^{(2)} \middle| \boldsymbol{\beta}^{(1)} \leq \boldsymbol{\beta}^{(2)}\right) = \mathbf{1} - \sum_{\forall j,i} \frac{\boldsymbol{\Theta}(2\boldsymbol{b}^{-(1)} - \boldsymbol{b}_j^{(1)} - 2\boldsymbol{b}^{-(2)} + \boldsymbol{b}_i^{(2)}}{\boldsymbol{J}^2} \tag{7}$$

where J indicated the 5,000 bootstrap samples, $b^{(1)}$ and $b^{(2)}$ were the parameter estimates of the bootstrap procedure, $b^{-(1)}$ and $b^{-(2)}$ were the focal parameters of the bootstrap samples and Θ the unit step function (1 if its argument > 0, otherwise 0; see Henseler et al. 2009 p. 309). We separately tested all hypothesized paths of the main model for changes when including age, size, business confidence and competitive intensity but did not find significant differences in the main paths in any of these individual tests. Simultaneously introducing all four control variables, we detected a significant change in the path from

environmental uncertainty to customer satisfaction ($p < .10$) which we ascribed to the correlations among the control variables themselves (see Table 9). We also assessed the path coefficients emanating from the control variables although they constituted only technical paths rather than hypothesized paths. We found significant effects for age (-.332), size (.328) and change in business confidence (.229) on the diversity in market actions ($p < .05$), for size (.212) and competitive concentration (.293) on customer satisfaction and for age (.243) on sales effectiveness. In the moderated model, we recorded an identical change in significance for the path from environment to customer satisfaction. Competitive concentration (.266), change in business confidence (.222) and size (.208) showed significant effects on customer satisfaction ($p < .05$), age (-.332), size (.328), change in business confidence had a significant direct path to the diversity in market actions construct (.229) while age (.164) was significantly related to sales effectiveness (see Table 10).

We also computed the individual effect strengths (f^2) of the control variables (Cohen 1988) and found only small to medium effect sizes for age ($f^2 = .10$) and size ($f^2 = .12$) on diversity in market actions and for the path from competitive concentration to customer satisfaction ($f^2 = .10$). For the remaining paths, the effect sizes were small or even zero. Having assured that the main and the moderated models, except for the mentioned path from environmental uncertainty to customer satisfaction, showed small but insignificant changes on the hypothesized paths and that their effect sizes were rather small compared to the plain model without control variables, we were confident that the effects of the control variables did not disturb the model structure. We did not want to overload the model with additional but insignificant noise (additional incoming links on the dependent variables) and possible multicollinearity issues among the controls. Our aim was to parsimoniously specify the model in line with the rather small sample size (see minimum sample size recommendations, Chin 1998). Therefore, we continued our model estimation including only size and age as the two main control variables given that these two control variables showed the greatest effect sizes during the pre-analysis. These two variables had a significant ($p < .01$) and positive correlation (.338).

Evaluation of the Path Coefficients: Direct and Indirect Effects

The estimated path coefficients and bootstrap results for the main model are illustrated in Table 7. In Hyp.1 we hypothesized that the creation of market-focused flexibility in the form of the capability to initiate and maintain interorganizational reallocation processes with external service providers becomes visible in a greater level in the diversity of market actions. For the flexibility potential of reallocation processes in market-support functions (Hyp.1_a) we found support for the hypothesized positive impact (.280, $p < .05$) on the diversity in market activity. In support of Hyp.1_b, we found that the reallocation of market-facing activities to external service providers had a significant ($p < .01$) and positive influence. With .250 the path coefficient was only slightly smaller than for market-support functions. With regard to the PLS output estimates for market-touching functions,

our data provided no evidence in support of Hyp.1_c. The path from the re- allocation in market-touching functions to diversity in market actions (path coefficient of .004) did not significantly differ from zero. For the business units in our data set, the reallocation of market-touching functions to external providers does not create flexibility potential which becomes visible in a greater market activity. We also reported the effect size of our individual latent exogenous variables on the endogenous variables expressed as f^2 based on the change in the adjusted R^2 values (see Table 11; Cohen 1988). Consistent with the very small and insignificant PLS estimates revealed for Hyp.1_c, the effect size of re-allocating market-touching functions to external providers on the diversity in market actions was zero. For the reallocation of market-facing functions, however, an f^2 of .07 indicated a small to medium-sized influence of the concept on the diversity of business units' market actions (Chin 1998). The small to medium effect strength was also true for the reallocation of market-support functions (f^2 = .07). We also hypothesized about the effects of the business units' diversity in market actions which they created through resource reallocation processes on their market-focused performance outcomes. Our performance variables were lagged by one period and represented the market performance of the sales units in the following period (2011). With this one year lag in performance, we modelled the delayed impact of the resource reallocation processes and market actions on performance because customers first need to process the stimuli that firms conveyed via market actions so that the performance outcomes can be expected to appear in the subsequent period.

			Model estimates: direction & significance		
	Hypothesis	**Hypothesized direction**	**Main effects model**	**Moderated model**	
1a	The greater the level of reallocation of market-support functions to external service providers, the greater the diversity in market actions.	pos.	pos. (**)	pos. (*)	✓
1b	The greater the level of reallocation of market-facing functions to external service providers, the greater the diversity in market actions.	pos.	pos. (***)	pos. (**)	✓
1c	The greater the level of reallocation of market-touching functions to external service providers, the greater the diversity in market actions.	pos.	pos. (ns)	pos. (ns)	✗
2a	The greater the firm's diversity in market actions due to resource reallocation processes to external service providers, the more enhanced the effect on the generation of sales turnover.	pos.	market-support: pos. (*) market-facing: pos. (**) market-touching: pos. (ns)	market-support: pos. (*) market-facing: pos. (**) market-touching: pos. (ns)	✓
2b	The greater the firm's diversity in market actions due to resource reallocation processes to external service providers, the more enhanced the effect on the gains in market share.	pos.	market-support: neg. (ns) market-facing: neg. (ns) market-touching: zero (ns)	market-support: neg. (ns) market-facing: neg. (ns) market-touching: zero (ns)	✗
2c	The greater the firm's diversity in market actions due to resource reallocation processes to external service providers, the more enhanced the effect on customer satisfaction.	pos.	market-support: pos. (*) market-facing: pos. (**) market-touching: pos. (ns)	market-support: pos. (*) market-facing: pos. (**) market-touching: pos. (ns)	✓
3a	Environmental uncertainty moderates the effects of firm's diversity in market actions on the generation of sales turnover. The positive effect of diversity in market actions on the generation of sales turnover will decrease but will remain positive the greater the environmental uncertainty.	lower	---	path: pos. (**) Δ_{H2a}: less positive (*)	✓
3b	Environmental uncertainty moderates the effects of firm's diversity in market actions on the gain in market share. The positive effect of diversity in market actions on the gains in market share will decrease but will remain positive the greater the environmental uncertainty.	lower	---	path: neg. (*) Δ_{H2b}: more negative (ns)	✗
3c	Environmental uncertainty moderates the effects of firm's diversity in market actions on customer satisfaction. The positive effect of the diversity in market actions on customer satisfaction will decrease but will remain positive the greater the environmental uncertainty.	lower	---	path: pos. (*) Δ_{H2c}: less positive (ns)	✓

Δ = direction and significance of the change compared to the respective main path in the moderated model (Hyp. 2)
* = significant at a 10% level; ** = significant at a 5% level; *** = significant at a 1% level; ns = non-significant; based on one-tailed tests

Table 6: Overview of hypotheses (study I)

	Path	Original Sample[1]	Sample Mean	Standard Error	T-Value
Direct effects					
Reallocation in market-touching	→ diversity in market actions	.004	.168	.1265	.0346
Reallocation in market-facing		.250 (***)	.198	.1030	2.4293
Reallocation in market-support		.280 (**)	.237	.1384	2.0254
Diversity in market actions	→ sales turnover	.500 (***)	.486	.1416	3.5345
	→ gains in MS	-.083	-.167	.1307	.6343
	→ customer satisf.	.340 (***)	.345	.1371	2.4767
Environmental uncertainty	→ sales turnover	.073	.108	.0875	.8282
	→ gains in MS	.037	.102	.0884	.4216
	→ customer satisf.	.170 (*)	.176	.1085	1.5678
Age	→ diversity in market actions	-.281 (*)	-.338	.1887	1.4887
	→ sales turnover	.264 (**)	.218	.1312	2.0087
	→ gains in MS	.200 (*)	.225	.1307	1.5274
	→ customer satisf.	-.018	-.130	.0967	.1813
Size	→ diversity in market actions	.276 (**)	.323	.1660	1.6634
	→ sales turnover	.006	.095	.0780	.0721
	→ gains in MS	-.197 (**)	-.208	.0974	2.0187
	→ customer satisf.	.158 (**)	.170	.0948	1.6701
Indirect effects					
Reallocation in market-touching	→ sales turnover	.002	.011	.0979	.0223
	→ gains in MS	.000	-.004	.0436	.0083
	→ customer satisf.	.002	.009	.0726	.0205
Reallocation in market-facing	→ sales turnover	.125 (**)	.094	.0621	2.0180
	→ gains in MS	-.021	-.017	.0427	.4861
	→ customer satisf.	.09 (**)	.064	.0473	1.7962
Reallocation in market-support	→ sales turnover	.140 (*)	.104	.0923	1.5191
	→ gains in MS	-.023	-.027	.0495	.4689
	→ customer satisf.	.095 (*)	.078	.0685	1.3907
Environmental uncertainty	→ sales turnover	.073	.055	.1276	.5680
	→ gains in MS	.037	.062	.1199	.3109
	→ customer satisf.	.170	.157	.1341	1.2678
Total effects					
Age	→ sales turnover	.123	.087	.1362	.9025
	→ gains in MS	.223 (*)	.239	.1372	1.6240
	→ customer satisf.	-.113	-.113	.1320	.8559
Size	→ sales turnover	.144 (*)	.154	.1020	1.4099
	→ gains in MS	-.220 (**)	-.218	.0997	2.2019
	→ customer satisf.	.252 (***)	.250	.0852	2.9597

1 *= significant at 10%; **= significant at 5%; ***= significant at 1%; one-tailed test, non-parametric bootstrapping procedure with 1,000 samples, 999 degrees of freedom. For the indirect effect, the coefficient of the path to market activity has been multiplied with the path from market activity to performance. The indirect effect equals the total effect because we did not hypothesize direct paths to performance (except for age and size, see total effects, i.e., direct + indirect effect). MS = market share.

Table 7: Modeling results of the main effects model (incl. environmental uncertainty, age, size) (study I)

	Path	Original Sample[1]	Sample Mean	Standard Error	T-Value
Direct effects					
Reallocation in market-touching	→ diversity in market actions	.004	.172	.1338	.0327
Reallocation in market-facing		.250 (**)	.203	.1095	2.2866
Reallocation in market-support		.280 (*)	.246	.1383	2.0266
Diversity in market actions	→ sales turnover	.475 (***)	.459	.1336	3.5532
Diversity in market actions * environmental uncertainty		.186 (**)	.266	.1044	1.7785
Diversity in market actions	→ gains in MS	-.086	-.142	.1008	.8507
Diversity in market actions * environmental uncertainty		-.177 (*)	-.219	.1185	1.4934
Diversity in market actions	→ customer satisf.	.310 (***)	.319	.1316	2.3559
Diversity in market actions * environmental uncertainty		.172 (*)	.250	.1260	1.3659
Environmental uncertainty	→ sales turnover	.080	.102	.0846	.9427
	→ gains in MS	.085	.107	.0891	.9500
	→ customer satisf.	.122	.137	.1024	1.1930
Age	→ diversity in market actions	-.281 (*)	-.315	.1851	1.5179
	→ sales turnover	.209 (**)	.170	.1188	1.7615
	→ gains in MS	.171 (*)	.196	.1243	1.3722
	→ customer satisf.	-.022	-.129	.0979	.2267
Size	→ diversity in market actions	.276 (**)	.313	.1620	1.7046
	→ sales turnover	.011	.094	.0792	.1362
	→ gains in MS	-.177 (**)	-.193	.0921	1.9217
	→ customer satisf.	.147 (*)	.157	.0970	1.5112
Indirect effects					
Reallocation in market-touching	→ sales turnover	.002	.017	.0985	.0211
	→ gains in MS	.000	-.003	.0363	.0103
	→ customer satisf.	.001	.016	.0736	.0184
Reallocation in market-facing	→ sales turnover	.119 (**)	.089	.0593	2.0030
	→ gains in MS	-.022	-.015	.0355	.6044
	→ customer satisf.	.078 (**)	.058	.0443	1.7518
Reallocation in market-support	→ sales turnover	.133 (*)	.104	.0864	1.5411
	→ gains in MS	-.024	-.022	.0427	.5632
	→ customer satisf.	.087 (*)	.070	.0667	1.3023
Environmental uncertainty	→ sales turnover	.080	.051	.1217	.6553
	→ gains in MS	.085	.083	.1121	.7556
	→ customer satisf.	.122	.095	.1419	.8613
Total effects					
Age	→ sales turnover	.076	.038	.1396	.5431
	→ gains in MS	.195 (*)	.206	.1293	1.5050
	→ customer satisf.	-.109	-.093	.1410	.7750
Size	→ sales turnover	.142 (*)	.140	.1059	1.3398
	→ gains in MS	-.201 (**)	-.201	.0946	2.1217
	→ customer satisf.	.232 (***)	.224	.0949	2.4474

1 *= significant at 10%; **= significant at 5%; ***= significant at 1%; one-tailed test, non-parametric bootstrapping procedure with 1,000 samples, 999 degrees of freedom. For the indirect effect, the coefficient of the path to market activity has been multiplied with the path from market activity to performance. The indirect effect equals the total effect because we did not hypothesize direct paths to performance (except for age and size, see total effects, i.e., direct + indirect effect). MS = market share.

Table 8: Modeling results of the moderated model (incl. environmental uncertainty, age, size) (study I)

	Age	Size	Competitive concentration	Change in business confidence
Age	1	-	-	-
Size	.338(***)	1	-	-
Competitive concentration	-.219	.003	1	-
Change in business confidence	-.032	-.151	.239	1

* = correlation is significant at a 10% level (2-tailed); ** = correlation is significant at a 5% level (2-tailed), *** = correlation is significant at a 1% level (2-tailed).

Table 9: Bivariate correlations among the control variables (study I)

Models including four control variables (age, size, change in business confidence, competitive concentration)					
Main model:					
Control variable	**Path**	**Original Sample[1]**	**Sample Mean**	**Standard Error**	**T-Value**
Age	→ diversity in market activity	-.332 (**)	-.336	.1969	1.6866
	→ sales turnover	.243 (**)	.200	.1268	1.9129
	→ gains in MS	.168 (*)	.192	.1174	1.4269
	→ customer satisf.	.038	.120	.0951	.3980
Size	→ diversity in market activity	.328 (**)	.338	.1692	1.9386
	→ sales turnover	.040	.110	.0847	.4755
	→ gains in MS	-.149 (*)	-.162	.0930	1.6062
	→ customer satisf.	.212 (**)	.226	.1107	1.9148
Competitive concentration	→ diversity in market activity	-.074	-.158	.1243	.5976
	→ sales turnover	-.044	-.089	.0687	.6463
	→ gains in MS	-.096 (*)	-.116	.0743	1.2899
	→ customer satisf.	.293 (***)	.310	.1062	2.7554
Change in business confidence	→ diversity in market activity	.229 (**)	.199	.1300	1.7607
	→ sales turnover	.117	.179	.1253	.9317
	→ gains in MS	.161	.198	.1512	1.0668
	→ customer satisf.	.199 (*)	.229	.1302	1.5297
Moderated model:					
Control variable	**Path**	**Original Sample[1]**	**Sample Mean**	**Standard Error**	**T-Value**
Age	→ diversity in market activity	-.332 (**)	-.330	.1975	1.6815
	→ sales turnover	.164 (*)	.148	.1107	1.4812
	→ gains in MS	.143	.169	.1156	1.2363
	→ customer satisf.	.026	.118	.0921	.2849
Size	→ diversity in market activity	.328 (**)	.336	.1709	1.9189
	→ sales turnover	.061	.118	.0883	.6925
	→ gains in MS	-.132 (*)	-.152	.0886	1.4904
	→ customer satisf.	.208 (**)	.211	.109	1.9069
Competitive concentration	→ diversity in market activity	-.074	-.161	.1238	.6000
	→ sales turnover	-.084	-.099	.0775	1.0876
	→ gains in MS	-.084	-.107	.0734	1.1498
	→ customer satisf.	.266 (***)	.283	.1049	2.5344
Change in business confidence	→ diversity in market activity	.229 (**)	.198	.1303	1.7571
	→ sales turnover	.169	.220	.1392	1.2102
	→ gains in MS	.158	.200	.1499	1.0515
	→ customer satisf.	.222 (**)	.235	.1324	1.6799

1 *= significant at 10%; **= significant at 5%; ***= significant at 1%; one-tailed test, non-parametric bootstrapping procedure with 1,000 samples, 999 degrees of freedom. MS = market share.

Table 10: Path coefficients and significance levels of the control variables (study I)

In Hyp.2$_a$, we theorized about a positive relationship between the business units' diversity in market actions due to resource reallocation processes to external service providers and sales turnover. Our hypothesis was aimed at the indirect effect of the resource reallocation process via diversity in market actions to performance. This investigation of the indirect

effect is a response to Albers' (2009) claim that marketing researchers should look beyond the direct relationships. Given the intentional combined wording of our hypothesis, we implicitly assumed unequal contributions of market-touching, market-facing and market-support functions on performance via the indirect link through the diversity in market activity concept. We computed the indirect effects in Hyp. $2_{a\text{-}c}$ by multiplying the path from the latent outsourcing variables (market-touching, market-facing, market-support functions) to diversity in market actions with the path from market activity to the respective performance construct. Note that for all of these paths the indirect effect equaled the total effect since we explicitly argued against any direct form of performance relevance of market-focused flexibility. We have already described the direct effects from the resource reallocation variables to the diversity in market actions concept above. The path estimate from diversity in market actions to sales turnover was strongly positive (.500) and highly significant ($p < .01$). For the market-touching functions on sales turnover, the small indirect effect (.002) did not significantly differ from zero. Both, the outsourcing of market-facing (.125; $p < .05$) and market-support functions (.140; $p < .10$), in contrast, had a positive significant indirect effect on sales turnover. Hence, we found support for our argument that resource reallocation decisions for market-support and market-facing functions indirectly contribute to sales turnover via market actions and that their effects outweigh the effects of resource reallocation decisions in market-facing functions. This supported our Hyp. 2_a.

We also expected a positive direct relationship of diversity in market actions on gains in market share but did not find significant support in our data set (-.083). There were insignificant indirect paths from reallocation in market-touching (.000), market-facing (-.021) and market-support functions (-.023) to gains in market share which indicated that Hyp. 2_b was not supported. Yet, we obtained convincing results for the relationship between diversity in market actions and customer satisfaction (Hyp. 2_c supported). We recorded a strong, positive and highly significant path from market activity to customer satisfaction (.340; $p < .01$). We drew on the indirect effects in order to break this aggregated direct effect down to the individual indirect effects of the three resource reallocation concepts. As expected, reallocation processes for market-touching functions did not indirectly contribute to the positive impact of diversity in market actions on customer satisfaction (.002; ns). Still, our analysis revealed a significant indirect effect of the reallocation of market-facing functions (.090; $p < .05$) and also for market-support functions (.095; $p < .10$) which backed up our argumentation line.

Effect sizes of the main effects model	path to	R^2 including the variable	R^2 excluding the variable	effect strength[1] (f^2)
Reallocation in market-touching	→ diversity in market actions	.2256	.2260	.00
Reallocation in market-facing		.2256	.1705	.07
Reallocation in market-support		.2256	.1721	.07
Age	→ diversity in market actions	.2256	.1628	.08
	→ sales turnover	.2705	.2287	.06
	→ gains in MS	.0745	.0431	.03
	→ customer satisf.	.1781	.1911	.00
Size	→ diversity in market actions	.2256	.1513	.10
	→ sales turnover	.2705	.2527	.02
	→ gains in MS	.0745	.0485	.03
	→ customer satisf.	.1781	.1680	.01
Environmental uncertainty	→ sales turnover	.2705	.2655	.01
	→ gains in MS	.0745	.0732	.00
	→ customer satisf.	.1781	.1507	.03
Effect sizes of the moderated model	**path to**	**R^2 including the variable**	**R^2 excluding the variable**	**effect strength[1] (f^2)**
Reallocation in market-touching	→ diversity in market actions	.2256	.2260	.00
Reallocation in market-facing		.2256	.1705	.07
Reallocation in market-support		.2256	.1721	.07
Interaction term: diversity in market actions * environmental uncertainty	→ sales turnover	.3021	.2705	.05
	→ gains in MS	.1031	.0745	.03
	→ customer satisf.	.2045	.1781	.03
Age	→ diversity in market actions	.2256	0.1628	.08
	→ sales turnover	.3021	.2790	.03
	→ gains in MS	.1031	.0821	.02
	→ customer satisf.	.2045	.2183	-.02
Size	→ diversity in market actions	.2256	.1513	.10
	→ sales turnover	.1031	.2872	-.21
	→ gains in MS	.2045	.0834	.15
	→ customer satisf.	.3021	.1992	.15
Environmental uncertainty	→ sales turnover	.3021	.2783	.03
	→ gains in MS	.1031	.0709	.04
	→ customer satisf.	.2045	.1440	.08

[1] effect strength (f^2) = (R^2_{incl}- R^2_{excl}) / (1-R^2_{incl}) ≥ .02 = small influence, ≥ .15 = medium influence, ≥ .35= substantiated influence of the latent exogenous variable on the latent endogenous variable (Chin 1998 p. 317). MS = market share.

Table 11: Effect strength of the latent exogenous variables (study I)

Evaluation of the Effects in the Moderated Model

Based on the satisfactory model results of the main effects model, we extended our analysis to the moderator effects and depicted the output in Table 8 and Figure 5. Compared to the main effects model, we did not record considerable changes in the size of the already discussed path coefficients or their signs except for the link between environmental uncertainty and customer satisfaction which turned insignificant after introducing the moderation effects. Yet, this constituted only a technical path to compute the interaction term. Consequently, the general model structure as presented above remained unchanged.

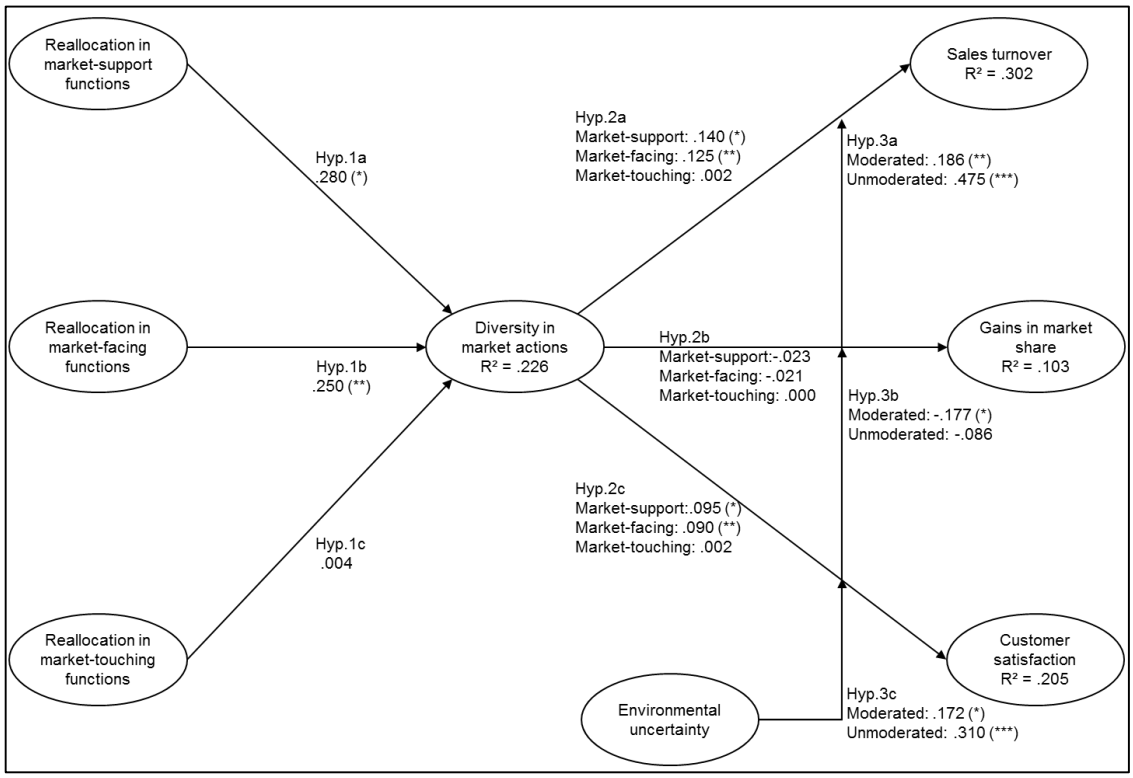

Figure 5: Results of the moderated structural equation model (study I)

In hypotheses Hyp.$3_{a\text{-}c}$ we argued for the mitigating effect of environmental uncertainty on the market-focused performance outcomes. We intentionally tested the moderation hypotheses based on the direct relationships between diversity in market actions and performance in order to isolate the purified effects. With regard to sales turnover, the interaction effect (.186) was significant ($p < .05$). It was significantly smaller than the unmoderated effect from diversity in market actions to sales effectiveness ($p < .10$) but remained positive nevertheless. These findings supported hypothesis Hyp.3_a. Besides the significance of the interaction term paths, we were also interested in the strength of the moderated effects (Chin et al. 2003 p. 195f). As shown in Table 11, the effect size ($f^2 = (R^2_{\text{incl.interaction term}} - R^2_{\text{excl.interaction term}}) / (1 - R^2_{\text{incl.interaction term}})$; Henseler & Chin 2010 p. 105) of the interaction term (diversity in market actions x environmental uncertainty) on sales turnover was .05. This is according to Henseler & Fassott (2010 p. 732) small to medium. We also obtained a significant ($p < .10$) path from the interaction term to the gains in market share construct. As hypothesized in Hyp.3_b, in the presence of environmental uncertainty the effect from diversity in market actions to gains in market share decreased (-.177 for the moderated, -.086 for the unmoderated path). The mitigating difference, however, was not significant at a 10% level. Although we found a significant interaction effect, this did not fit into our original argumentation of a generally positive effect that would only slightly be decreased by environmental uncertainty. Therefore, we did not find support for Hyp.3_b. Finally, we hypothesized about a moderation effect for the path to customer satisfaction (Hyp.3_c) in that it would be more difficult to maintain the level under conditions of amplified environmental uncertainty. Our model estimates revealed a significant path ($p < .10$) from the interaction term to customer satisfaction (.172). Compared to the

unmoderated path to customer satisfaction (.310) the moderated effect decreased although this difference was statistically not significant ($p < .10$). The effect strength of the moderated term on customer satisfaction turned out to be a rather low size of .03. Still, we considered it as meaningful bearing in mind that '…a small f^2 does not necessarily imply an unimportant effect. Even a small interaction effect can be meaningful under extreme moderating conditions, if the resulting beta changes are meaningful' (Chin et al. 2003 p. 211). Based on the market insights gained during the data collection phase, we learnt about the devastating effect environmental turbulence in the form of demand uncertainty can have on the business units. We considered environmental uncertainty as an extreme condition and thus assigned meaning to the small yet significant moderator effect. As a result, we recorded support for hypothesis Hyp.3_c as the significant path of the interaction term to customer satisfaction in combination with the small change in the value of the still positive path coefficient assured us that flexible firms indeed were able to capitalize lower decreases or smaller losses while moving to a new position under uncertain conditions.

4.9. Evaluation of the Structural Models

For PLS there are no global fitness indices. Therefore, we followed the catalog of evaluation criteria recommended by Chin (1998 p. 316) to assess the quality of our PLS models. Accordingly, we drew on the R^2 as the central evaluation criterion to assess the quality of fit of the regression function to the empirical data (Chin 1998 p. 316). In line with Chin (1998 p. 323), adjusted R^2 of .67, .33 and .19 indicate a 'substantiated', 'medium' or 'weak' model quality, respectively. The proportion of the explained variance in our first dependent variable, diversity in market actions was weak to medium (.226). The explained variance in the performance variables of the main effect model (moderated model) amounted to .271 (.302) for sales turnover, .075 (.103) for gains in market share and .178 (.205) for customer satisfaction. Following Aguinis (1995 p. 1144) we tested the changes in the R^2 between the main and the moderated model for their significance and obtained evidence that all three positive changes in the R^2 levels were significant ($p < .05$). Moreover, we assessed the quality of the proposed structural model by observing the sign, strength (weights) and significance levels of the causal linkages between the latent variables (Cool et al. 1989 p. 515). Given the size of the above reported path coefficients, their significance levels and their effect sizes, we concluded that a satisfactory fit had been obtained for both the proposed structural main effects model as well as for the moderated model. We were confident about the model qualities since the empirical findings obtained by means of structural equation models were in accordance with both the judgment of the consulted industry experts as well as the theoretical reasoning of marketing and management literature.

4.10. Discussion and Conclusions

According to the best of our knowledge, we were not aware of marketing publications that have directly assessed the flexibility potential of firms' outsourcing decisions. Our

model therefore constituted an important research contribution in that it provided strong evidence for the flexibility-creating effect of resource reallocation decisions to external service providers. Managers that wish to enlarge flexibility in a market-focused way are recommended to consider market-support and market-facing functions as appropriate outsourcing candidates. We have shown that the outsourcing of these functions significantly contributed to a greater diversity in market actions. With regard to the outsourcing of market-support functions, this was especially remarkable as the business units were able to transfer the operational freedom arising from the outsourcing of non-market relevant back office functions into effective marketing actions. This supported our argument that the outsourcing of market-support functions released internal resources that could be redirected and transformed into market-based outcomes. Specifically, this logic was reflected in the slightly greater impact of outsourcing market-support functions as compared to market-facing functions as the former may provide an even greater potential of redirecting released resources to customer value enhancing actions. With regard to market-facing functions, our results showed that the risk of outsourcing these functions seemed to be manageable and that firms following this practice generated a significantly greater diversity in their market actions that could be used by them to differentiate themselves from their competitors. Our finding of the small and insignificant effect of outsourcing market-touching functions provided evidence that these functions should not be outsourced for reasons of flexibility creation as this practice did not enhance firms' market activity. Interestingly, although the reallocation of market-touching functions provided directly related marketing capacity, still, firms were unable to convert these additionally available marketing resources into market actions to engage in exchanges with customers or counteract competitors. For the creation of flexibility, it appears as if firms could not draw on readily delivered marketing solutions assumingly because these 'one-fits-all' offers were not firm-specific enough to make an impact. Rather, our empirical results for market-support and market-facing functions suggested that firms drew on the internal operational freedom obtained through outsourcing less relevant functions to create visible marketing outcomes by themselves. For the market-touching functions, the operational freedom enhancing mechanism of outsourcing was sidelined by the market relevance of the tasks in this functional group. Outsourcing firms would trade-off the greater operational freedom for one activity by compromising these degrees of freedom in another market relevant activity. The net effect of this attempt would be zero so that the logic is consistent with the extremely small path coefficient for market-touching functions. We further researched this matter in order to ensure that firms did not outsource market-touching functions for efficiency reasons. We introduced an additional path from outsourcing market-touching functions to efficiency outcomes of the same year but did not find immediate efficiency enhancing effects (fixed costs per turnover .070 (ns); fixed costs per sales -.096 ($p < .10$); fixed costs per employee .092 (ns)). Interestingly, our data revealed a strong negative effect from outsourcing to a specifically created 'growth of employees on the payroll' variable (-.277, $p < .01$). Based on the findings that some firms

in our data set actually outsourced market-touching functions, for us, this reflected managers' hope to create and more importantly report lean business unit structures to their headquarters - a trend that has frequently been promoted in the popular literature. Our findings, however, indicated that this headcount reduction attempt neither provided them with greater flexibility nor with efficiency improvements.

Importantly, we also provided empirical proof that the created market-focused flexibility was value enhancing in that it significantly drove sales turnover and customer satisfaction. We observed strong impacts of the outsourcing of market-support functions on market-focused performance. This was remarkable in so far as managers could comparatively easily achieve customer value enhancing effects by outsourcing some of their back office functions - a functional area where outsourcing decisions generally do not come along with differentiation concerns. Managers can also be confident about outsourcing market-facing functions such as quality assurance, market analysis or technical support although these activities were directed towards the market and play a crucial role for the firm's market positioning and strategic direction. Customers seemed to be more positively influenced by the greater diversity in firms' market actions than by potential negative value perceptions due to service failures of functions accomplished by external providers. For us, this is the case because market-facing functions shaped the customers' value perception only implicitly without directly touching them while the resulting greater diversity in marketing actions was found to directly influence customers' attitudes and value perceptions. The positive effect of outsourcing market-facing and market-support functions also confirmed our proposition that outsourcing would not disturb smooth operations. The costs of potentially losing parts of the differentiating factors were low and could be compensated by the ability to serve customer needs and wants faster than competitors. In line with the only marginal effect of outsourcing market-touching functions on market actions it also did not lead to significant changes in market-focused performance. For the future, managers are thus recommended to keep the truly customer value shaping functions within their internal spheres of responsibility to defend the core marketing values as their outsourcing neither drives market-focused flexibility nor performance. We have concentrated on external market effectiveness performance indicators rather than internal efficiency measures. This was because the temporary failure of delivering customer pleasing outputs hurts firms more in the long-term perspective than some profitability declines due to temporarily higher costs. While it would be extremely difficult to regain the trust of disappointed customers, it appears much easier to temporarily cover periods of weak profits in firms that are endowed with a solid equity structure. Interestingly, the by-products of our study helped to remove concerns of efficiency losses as the internal efficiency performance measure did not turn significantly negative.

With respect to customer satisfaction, our positive findings were extremely important as customer satisfaction has been found to be a significant driver of long-term firm value (Anderson et al. 2004). Nevertheless, we recorded marginal and insignificant effects for

gains in market share. This was suspicious as the positive effects on sales turnover and customer satisfaction should have materialized in increased market share. Yet, we related our insignificant findings back to a matter of temporal order. Gains in market share may only be realized with a lag of two periods following the resource reallocation decisions, while we conceptualized a lag of one period for all three performance concepts. It appeared that favorable sales turnover and satisfaction outcomes would only materialize into gained shares in the subsequent period. Based on this, the negative indirect path signs from the three functional groups and the direct one from market actions on gains in market share may have been explained by the fact that the true effects on market shares may have been delayed more than originally expected and thus had not yet materialized within the one year lag that we considered.

Beyond these important findings, our model has conceptually been enhanced by considering the creation and deployment of market-focused flexibility by means of a contingency approach. We obtained empirical proof that flexible firms were able to maintain positive market-focused performance outcomes despite unfavorable environmental conditions. For customer satisfaction, we recorded a small but insignificant decline in the path coefficient which implied that flexibility created by means of outsourcing did not harm customer satisfaction. This constitutes a truly remarkable finding as neither outsourcing nor environmental uncertainty could significantly decrease the strong effects of flexibility on customer satisfaction as long as managers had carefully based their outsourcing approach on market-facing and/or market-support functions. We obtained similar findings for the moderating impact on sales turnover, although there was a small but significant performance decline under environmental uncertainty. We derive from these results that managers could, within certain limits, draw on the creation of market-focused flexibility by means of outsourcing as an insurance against performance compromising environmental threats. In times of turbulent demand developments, the effect of flexibility on performance indeed remained strong since the more flexible firms were able to answer the unique needs and wishes of the market sooner, better and more accurately (Eisenhardt & Martin 2000). Thereby, they were enabled to outpace competitors so that the flexibility effect compensated great parts of the performance declines otherwise expected due to environmental turbulence. With respect to environmental conditions, we showed that firms also obtained positive performance outcomes from their deployment of market-focused flexibility during calm conditions. This provided a response to Anand & Ward's (2004) call for research on how specific types of flexibility could contribute to the management of environmental conditions. While some researchers argued that flexibility would lose some of its value in the absence of uncertainty (e.g., Weiss 2001), the positive performance effects in our dataset provided reasons to assume that firms made use of their flexibility by means of exploitive market actions during rather calm conditions. This was in line with Dreyer & Grønhaug (2004 p. 492) who called for more research on the specific situations in which flexibility could be used without performance losses. Moreover, Lee & Makhija (2009 p. 552) suggested to consider uncertainty not

only with regard to negative experiences but also with respect to the upside potential of uncertainty for firms that are flexible. We captured firms' marketing activity based on an aggregated measure which combined corrective and exploitive market actions so that one can only speculate on the different effects of corrective and exploitive market actions. We recommend that future research studies will not only assess the flexibility potential inherent in reallocation processes of different functional groups but also differentiate between the deployment of corrective and exploitive actions to shed more light on the creation and deployment of flexibility in different environments. We assumed that different resource reallocation processes would be necessary to create either corrective or exploitive market actions. For us, both forms of deployment would be important but they can be expected to require different investments in reallocation processes and capabilities.

All in all, our results implied that managers do not need to sacrifice market-focused performance outcomes when drawing on the additional flexibility potential of outside providers. Quite to the contrary, prudent outsourcing decisions could enhance both market-focused flexibility and performance outcomes. Numerous academics have repeatedly asked for more research on flexibility especially outside the realms of the manufacturing literature. Beach et al. (2000) noted a gap in flexibility literature regarding the methods of delivering flexibility. Therefore, research on flexibility has often been criticized for not providing concrete operating procedures (Skordoulis 2004). Given this lack of satisfactory methods to assess the firms' flexibility needs (Slack 1987), the methods and areas for enhancing flexibility have remained largely unexplored (Eppink 1978). Flexibility has been viewed both, in terms of the breadth of outputs as well as inputs. With regard to the latter, while some antecedents have been studied, researchers lacked a deeper understanding of the capabilities that should be emphasized to build flexibility. In response to these calls, we provided marketing-based insights to the creation and deployment of flexibility. Moreover, our paper filled some research gaps by carefully investigating the capabilities and resource reallocation decisions that are necessary to create flexibility on the firms' operational levels. We also observed their impact on the overall market flexibility. This resource- and capability-theory-based perspective on flexibility was essential as processes on the operational level establish the basis for strategic actions because operative managers have been said to be more concerned about the developments in their intermediate environment (Slack 1987). In fact, they are the ones who translate the environmental conditions into operative flexibility requirements that, in turn, provide the basis to respond with diverse market actions. Our theoretical conceptualization and empirical model provided a consistent resource and capabilities-theory based foundation to assess the creation and deployment implications of market-focused flexibility. At present, we are not aware of any academic publication in the fields of marketing-based research that has provided similarly solid insights. Our research approach rested on a theoretically solid base of dynamic capabilities reasoning. Thereby, we advanced this research stream by delivering meaningful empirical results paying due regard to conceptualizing dynamic capa-

bilities without directly linking them to performance outcomes. In summary, it has become apparent that flexibility is a pervasive organizational quality (Koornhof 1998). Although created on the operational level, it must still be understood and managed from a holistic perspective. Our findings provided evidence that flexibility is not strategic per se. Rather it must be managed and deployed in a strategic manner.

4.11. Limitations & Future Research

The rather small size of our dataset may have prevented us from drawing even more definite conclusions based on greater effect sizes. Nevertheless, based on the convincing results drawn from this small but high quality set of objective data, we recommend that future researchers should turn more often to objective data in order to avoid perceptive bias in their measures. Although time-consuming, our approach of establishing close working relationships with the managers inside the research objects turned out to be worthwhile in terms of the data quality obtained and the insights on how the industry ticks. However, time and confidentiality reasons prevented us from including even more business units of other manufacturers. As indicated, future research models on market-focused flexibility need to emphasize more on the temporal dynamics of the performance variables. Based on lagged variables, researchers could appraise the time staggered performance implications of immediately responsive indicators such as turnover in a combined model together with performance concepts that unfold medium- and long-term outcomes. With regard to time, there have been warnings from the knowledge and capability perspective against outsourcing as it could potentially lead to de-learning and competitive lock-out effects. In this context, researchers have warned that outsourcing would not help to grow the internal capabilities and the people-embodied skills upon which the long-term competitive advantage rests (Jiang et al. 2007 p. 894). Hence, it would be interesting to consider the creation and deployment of market-focused flexibility over time. A time-series approach would enable researchers to track capability level changes over time and relate them to the creation of flexibility. This would place an even greater emphasis on the change in the dynamic capabilities for creating flexibility compared to what our lagged performance outcomes model could handle. This would especially be important as some business units in our dataset, by chance, may have had easy access to flexibility that happened to be available or they may have been perfectly aligned with the environment without holding the necessary dynamic capabilities to carry the favorable effects thereof into the future (Verdú-Jover 2006 p. 346). A medium- to long-term time series approach to track the development of and outcomes from the dynamic capability would enable researchers to exclude accidentally aligned firms that lacked the required capabilities. Based on our convincing findings, future studies could further research the market-focused performance outcomes of flexible firms. We suggest an observation of customer value based performance indicators. It would be highly insightful to relate resource reallocation processes and market actions to market- and customer-focused concepts such as customer value (Bolton & Drew 1991), customer lifetime value (Berger & Nasr 1998, Mulhern 1999, Reinartz & Kumar 2000) or even customer equity (Blattberg & Deighton

1996, Rust et al. 2000). This would constitute a milestone in research on market-focused flexibility as researchers could assess the long-term value implications of managers' resource reallocation decisions. Lastly, Koornhof (1998 p. 159) stressed that flexibility is not a process that is restricted to only certain aspects or functions of the firm (Koornhof 1998 p. 159). In this regard, Gupta & Goyal (1989) called for a disclosure of the trade-offs among the flexibility types but studies that have examined the link between the flexibility types on different organizational levels and their relationship towards the concept of overall organizational flexibility remain rare (van der Weerdt 2009). Hence, flexibility research has often been criticized for not taking the firm as a whole into consideration but rather focusing on individual functions or resources (Slack 1987). In order to overcome the restricted functional view, Volberda (1998) considered flexibility as a process that integrates all organizational functions, units and resources. He attributed the task of managing these complex interactions to the management. Our conceptualization has provided an important step in this direction and we encourage researchers to further conceive the interrelationships and dynamics between the creation of flexibility in different business functions and on different levels of the business.

5. Study II

Market-focused Flexibility: An Analysis of the Flexibility Benefits Inherent in Human Resource Slack to Optimize Firms' Market Activity and their Customer Equity-based Residual Value of the Customer Base.

In which functional locations of the business does human resource slack act as a source of flexibility?
Which capabilities and mechanisms enable firms to use flexibility from slack resources in a proactive way?
How effectively can firms that are able to allocate slack to the right locations, i.e., the more flexible ones, translate their slack resources into customer equity-based residual value enhancing market actions?

5.1. Introduction

Researchers have widely recognized the direct interface between marketing and the environment. They have emphasized the strategic relevance of market-related functions and the influence on customers' value perceptions (Davidson 1997, Dutta et al. 1999 p. 552, Hult et al. 2005, Katsikeas et al. 2006). Naturally, firms' marketing and market-related capabilities are highly exposed to environmental effects and there are great demands for adaptability in today's market reality. Combe & Greenly (2004 p. 1456) identified some notion of flexibility in the adoption of the marketing concept. Flexibility has been a desirable characteristic because it enables firms to pull through threatening events, manage adversity or deal with uncertain markets and fast-occurring events (Aaker & Mascarenhas 1984, Anderson 1994, Evans 1991, Grewal & Tansuhaj 2001). Although managers have frequently regarded flexibility as a highly advantageous firm characteristic, their actual behavior speaks another language. Encouraged by the popular literature, managers have continued to streamline and downsize their firms to the bone. They have frequently considered resources that are in excess of what is needed for an efficient operation, i.e., slack, as an unnecessary cost burden for the firm (Bourgeois 1981, Cheng & Kesner 1997 p. 2). While researchers have acknowledged the balancing act between meeting the short-term operational efficiency goals requested by shareholders and the firms' long-term expectations for market effectiveness (Daniel et al. 2004 p. 565, Lawson 2001), they have still warned against downsizing practices that imply that firms have too little slack resources to move with unforeseen events (e.g., Cascio & Young 2003, Lawson 2001, Love & Nohria 2005). Despite numerous research contributions that described slack as a natural component of firms that are operating in dynamic environments, slack remains a controversial issue because it carries the costs of holding resources for eventualities that may never materialize (Aaker & Mascarenhas 1984 p. 76, Cyert & March 1963, Thompson 1967). Managers have often considered slack as an inefficiency, at least until they were hit by unforeseen events in which their unpopular slack resources provided them with an invaluable competitive advantage. It is thus surprising that researchers have not looked

into the mechanisms that transform slack resources into the firms' ability to rapidly initiate or alter customer value enhancing actions. Instead, firms' slack levels have directly been associated with performance by using curvilinear functions. Thereby, researchers have implicitly assumed that firms with slack levels close to the function's inflection point are able to make use of their excess resources. In this paper, we challenge this automatism and propose that excess resources, although kept within reasonable limits, are not per se a formula for success. We suggest that even moderate slack resources cannot unconditionally be equalized with flexibility or inefficiency. Instead, we argue that slack in certain functional locations of the firm can be used for flexibility reasons to quickly initiate or alter market actions while the access to make use of slack in a market-focused way will remain locked in other functional areas. Besides the reactive use of slack that rests on the self-selection mechanism of the employees to counteract threats or respond to arising opportunities, we propose that firms with rapid resource reallocation capabilities can also use slack in a more proactive way to create customer value enhancing market activities. This is because they can actively direct and strategically coordinate the excess resources to promising tasks. Our study responds to Gupta's (2009 p. 169) call for empirical research on the impact of marketing actions on customer-based firm valuation. Yet, we attempt to come in even earlier and argue that the creation of these marketing actions requires well-thought out internal resource reallocation processes and that some functional areas of the firm are more suitable and capable to transfer slack resources into market-focused flexibility. Our study is innovative because we link the creation and use of flexibility to a customer equity based performance measure. In doing so, we respond to frequent calls for relating marketing actions to the customer based long-term value of firms. This paper addresses the following main research questions: *In which functional locations of the business does human resource slack act as a source of flexibility? Which capabilities and mechanisms enable firms to use flexibility from slack resources in a proactive way? How effectively can firms that are able to allocate slack to the right locations, i.e., the more flexible ones, translate their slack resources into customer equity-based residual value enhancing market actions?* The answers to these questions help to shed light on the mechanisms through which human resource slack is transferred into customer value. This satisfies calls for more research in the fields of non-financial slack types (Paeleman et al. 2012 p. 3). We also contribute to research by providing insights into the market-focused flexibility enhancing effects of human resource slack and the consequences of surplus resources for the long-term value of the firms' customer equity-based residual value of the customer base. Overall, we argue that market-focused flexibility can be created by drawing on excess resources and that this indirectly affects customer equity-based residual value because of the greater novelty effects in firms' set of market actions.

The paper is structured as follows. Initially, we present the concept and merits of market-focused flexibility and describe the process of creating flexibility. In a subsequent step, we introduce the concept of slack resources and outline its differences and common grounds with market-focused flexibility. We differentiate between human resource slack

in customer value supporting and customer value creating functions to theorize about the benefits of slack in different locations of the firm. We broaden the scope and include firms' market actions in this research context. We argue that the novelty element in firms' market activity can be considered as a visible outcome of their market-focused flexibility. We review customer equity as a method of customer-based firm valuation and present the shortfalls of previous customer-based valuation research. We link human resource slack to the reactive creation of market-focused flexibility and argue that it can abound in a more creative and surprising set of market activity for human resource slack in customer value creating functions but not in customer value supporting positions. We also investigate firms' slack resource reallocation capabilities with regard to their potential for creating flexibility in a proactive manner. We expand the conceptualization of Gupta et al. (2006) and Gupta (2009) and hypothesize about the implications of market-focused flexibility on the customer equity-based residual value of firms' customer bases. We empirically test our conceptual model with data of local business units in the fields of marketing, sales and distribution in the automotive industry. We empirically find that human resource slack in customer-value creating functions can be used both, reactively and proactively to create flexibility and that this flexibility is firm value enhancing while the opposite is true for slack in customer value supporting functions. Finally, we discuss our results and elaborate on the implications of our findings for marketers and future academic research.

5.2. Market-focused Flexibility

In general, flexibility connotes being able to do or produce something other than what was originally intended (Evans 1991 p.73, Golden & Powel 2000 p. 375). Despite the abstract nature which makes it difficult to capture the concept in a precise but all-embracing definition (Sethi & Sethi 1990), researchers have agreed that flexibility is the ability to change or adapt to change. In a business context, this refers to the ability to act upon a wide range of possible situations potentially encountered that could arise from inside or outside the firm (Sethi & Sethi 1990 p. 295, Gustavsson 1984, Slack 1983, 1987). Reviewing the different meanings that researchers have attached to the concept, Evans (1991 p. 74) identified three recurrent 'faces' of flexibility: Flexible firms yield to pressures and remain viable when dealing with disturbances. They are able to modify and transform with minimal friction and lastly, they are able to precipitate new states and have the capacity for new situations (Evans 1991). Mandelbaum (1978) distinguished between two aspects of flexibility. State flexibility is a system's in-built capacity to respond. It enables firms to continue functioning effectively despite changing conditions while action flexibility allows them to undertake new actions to meet or create new circumstances. This fits to Evan's (1991) idea that flexibility appears in an ex-ante and an ex-post mode. The former captures the ability to provide for unknown future changes without knowledge of the initiating contingency. The ex-post mode alludes to rapid 'after-the-fact adjustments undertaken once a triggering episode has occurred' (Evans 1991 p. 75). Furthermore, researchers have acknowledged that flexibility carries a cost and that time is an essential

factor for someone or something to be called flexible (Kickert 1985, Sanchez 1995, Upton 1994). Consistently, Marschak & Nelson (1962) referred to firms' profits when defining flexibility: A firm is more flexible if it generates more profits or smaller losses while moving to a new position. Upton (1994) defined flexibility as the ability to change or react with 'little penalty in time, effort, cost or performance' (p.73). More recently, researchers have interpreted flexibility as a means of creating choices, alternatives or options. In other words, to create opportunities for real activities to 'do things differently or do something else if the need arises' (Evans 1991 p. 74, Golden & Powell 2000, Johnson et al. 2003, Luenberger 1998, Rosenhead et al. 1972, Trigeorgis 1993, Upton 1995). Our literature review showed that researchers have empirically captured the phenomenon in two ways: In its deployed, result-driven form as the greater diversity in market maneuvers which these firms are capable of and secondly on the firms' process level (Combe & Greenley 2004 p. 1459). The former approach makes use of the visible market manifestations of flexible firms while the latter observes the existence and quality of internal processes and capabilities to create flexibility (Combe & Greenley 2004). Johnson et al. (2003) reconciled these two approaches by conceptualizing market-focused strategic flexibility as the 'firm's intent and capabilities to generate firm-specific real options for the configuration and reconfiguration of appreciably superior customer value propositions' (p. 77). They emphasized that some firms are able to generate both reactive as well as proactive real option bundles and conceptualized flexibility in a reactive and a proactive manner (e.g., Evans 1991, Johnson et al. 2003). Firms which are able to create a proactive flexibility bundle of options can develop their own opportunities. Thereby, they can actively opt for change whereas firms in the reactive flexibility mode are able to quickly work out ways to handle change when being confronted with it. The proactive view describes flexibility as an upward enhancing ability which enables firms to actively influence the environment to avoid being forced into reactive adjustments (e.g., Krijnen 1979 p. 64, Volberda 1996 p. 362). From the proactive perspective, researchers have set change into an intentional, change-precipitating context which means an initiating event is not required to provoke flexibility (Bahrami 1992 p. 36, Johnson et al. 2003). Firms that rely on the reactive form do not actively create opportunities. Although not desirable, the reactive perspective of flexibility is necessary because proactivity does not shield from sudden, low probability but high-impact changes (Grewal & Tansuhaj 2001 p. 78). Firms may occasionally be overwhelmed by unexpected environmental changes that leave no choice but to respond by taking actions to absorb the disturbance (Eppink 1978, Baharami 1992, Bourgeois 1981 p. 30, DeLeeuw & Volberda 1996, Rosenhead et al. 1972). Notably, reactive flexibility has not only been associated with the ability to respond to threatening events but has also been related to dealing with suddenly arising opportunities such as strategic windows where firms are nevertheless constrained by the existing market structures. The accommodation of circumstances and changing environmental demands is thus an after-the-fact response once an influencing event has taken place (Golden & Powell 2000, Pasmore 1994, Sennet 1998, Stigler 1939). While it constitutes a downward

protection mechanism, reactive flexibility also allows for responses to arising opportunities (Evans 1991 p. 75).

Research from the internal process-related perspective of flexibility pivots around firms' resource allocation practices. Accordingly, flexible firms are able to rapidly regulate their availability of resources (Krijnen 1979 p. 65). This view describes flexibility as the ability to quickly reconfigure, realign and redeploy resources and capabilities in response to environmental demands (Evans 1991, Sethi & Sethi 1990 p. 295, Wright & Snell 1998 p. 757). In strategic terms, flexibility is thus a firm's ability to identify the need for change and to rapidly commit resources to a new course of action and to 'recognize and act promptly when it is time to halt or reverse such resource commitments' (Shimizu & Hitt 2004 p. 45). Based on the insights from the literature review, we define flexibility as the ability of firms to be adaptable and capable of change to rapidly respond to or initiate a wide range of situations and demands to satisfy the market expectations without incurring excessive costs, organizational disruptions or performance losses. Following Helfat et al. (2007), we perceive the creation of flexibility as a sequence of reallocation processes and capability (dis-) investment decisions on the operational business level. At the core of flexibility creation, these processes unfold choices for the deployment of the refreshed capabilities which enable, if required or desired, for the generation of visible market actions. These external activities constitute the direct outcomes of the internally-running flexibility creating processes. The creation of flexibility is thus the capacity to rapidly assemble the involved operating capabilities at hand and flexibility is the ability to generate timely actions in an effective manner if the need or desire arises. Flexibility becomes market-focused when the involved resources, capabilities and processes are employed to please customer needs and create value in the market place (Hooley et al. 2001 p. 1).

Flexibility has been a recurring research topic and a desirable firm characteristic because flexible firms have been argued to be more effective in dealing with market fluctuations, changes in competition and changing product and service demands (Englehardt & Simmons 2002, Evans 1991). In flexible firms, managers can mitigate losses or capitalize on favorable opportunities because they hold options to build, alter or abandon (Trigeorgis 1993). More recent research has tended to interpret flexibility as a facilitator to alternative ends such as innovativeness or strategic change (Johnson et al. 2003 p. 83, Slack 1987, 2005 p. 1195). This fits to Eccles' (1959 p. 25) early research thoughts that 'the intellectual concept of strategy naturally leads to the intellectual concept of flexibility'. Sanchez (1995) attributed competitive advantage largely to the higher strategic flexibility possessed by some firms in dynamic product markets which enables them to outmaneuver or neutralize competitive threats and exploit opportunities. Firms that are able to manage their output flexibly have empirically been found to benefit from enhanced competitive advantage especially in industries with high demand fluctuations (Fiegenbaum & Karnani 1991). Several researchers have theorized about or empirically tested the relationship between strategic flexibility and performance (Ettlie & Penner-Hahn 1994, Fiegenbaum &

Karnani 1991, Gatignon & Xuerb 1997, Grewal & Tansuhaj 2001, Jaikumar 1986, Johnson et al. 2003, McKee et al. 1989, Saini & Johnson 2005, Shimizu & Hitt 2004, Slack 1988, Suarez et al. 1995, Swamidass & Newell 1987, Tombak 1988, Tombak & de Meyer 1988). The empirical evidence remains mixed: researchers found positive as well as negative relationships (Gupta & Somers 1996, Gustavsson 1984, Swamidass & Newell 1987). For us, this is because flexibility must be understood as a means to achieve intermediate goals and deal with deviating effects rather than being an ultimate goal in itself (Reichwald & Behrbohm 1983). Slack (1987, 2005) presented a flexibility hierarchy in which he linked operational flexibility decisions on the resource level to firm performance to gain an understanding of the role flexibility plays for the overall strategy. We will take up these thoughts when conceptualizing our model framework.

5.3. Slack Resources

In 1963, Cyert & March introduced the term slack and defined it as '…a disparity between the resources available to the organization and the payments required to maintain the coalition' (p. 36). Building on this, Bourgeois (1981) broadened the concept and referred to slack as 'that cushion of actual or potential resources which allows an organization to adapt successfully to internal pressures for adjustment or to external pressures for change in policy, as well as to initiate changes in strategy with respect to the external environment' (p. 30). This shows that slack also has a reactive and a proactive dimension. We follow this general slack definition throughout this paper. Accordingly, for us slack comprises all firm resources that are in excess of what is required for the regular efficient operations and which have not been committed to indispensable purposes (Bourgeois 1981, Dimick & Murray 1978 p. 616). Mishina et al. (2004 p. 1182) emphasized the dynamic nature of the concept because the level of slack depends on the firm's total resource level and its current resource demands. Thus, different slack levels may result for two firms despite identical resource endowments when they face different demands because the level of slack varies with the changing internal or external resource requirements (Mishina et al. 2004 p. 1182). Temporary, slack levels are consequently a common phenomenon in dynamic environments. Several researchers have refined the concept by acknowledging its multidimensional nature. They have classified organizational slack as available, potential and recoverable slack (Bourgeois & Singh 1983), absorbed and unabsorbed slack (Singh 1986) or high and low discretionary slack (Sharfman et al. 1988). These conceptualizations highlight the different degrees of freedom and the immediacy with which firms' resources can be accessed and re-deployed. According to Bourgeois & Singh (1983, see also Cheng & Kesner 1997 p. 2), available slack denotes uncommitted resources such as excess liquidity which can immediately be employed for firms' purposes. Excess resources of the recoverable slack, such as inflated overhead costs or an underutilized workforce, have been absorbed by the system so that structural constraints can defer their immediate recovery (Love & Nohria 2005 p. 1088). It requires certain efforts to unlock these underused resources and retransfer them into profitable deploy-

ment because they are embedded in the firm's structures, processes and routines (Bourgeois & Singh, 1983, Love & Nohria 2005 p. 1089). Potential slack has been described as the ability to attract future resources from external sources such as additional equity capital or debt (Bourgeois & Singh 1983 p. 43, Cheng & Kesner 1997 p. 2).

There has been an ongoing debate on the performance implications of slack in the academic literature. Researchers from organizational theory and the resource-based theory (RBT) have acknowledged the benefits of slack as a cushion to adapt to unforeseen change and as a facilitator of proactive strategic change (Bourgeois 1981, Cyert & March 1963, Love & Nohria 2005, Singh 1986). Slack acts as a buffer against the immediate consequences of internal instabilities or external threats (Cyert & March 1963, Greenley & Okemgil 1998, Greve 2003, O'Brien 2003). Researchers have recognized its stabilizing role for firms' operations because it prevents them from losing focus by lapsing into continuous internal restructuring to respond to the external demands (Cheng & Kesner 1997 p. 3). Slack allows for immediate actions to capitalize on arising opportunities and exploit strategic windows (Chattopadhyay et al. 2001, Thompson 1967 p. 150). Beyond these reactive functions, McGrath & MacMillan (2000) argued that firms need a certain level of excess resources to grow an entrepreneurial mindset. Slack resources have been argued to provide these degrees of freedom for the proactive experimentation which may allow for innovation and novel market approaches (Bourgeois 1981, Bromiley 1991). Nevertheless, slack opponents from the fields of economics and agency theory have advocated a negative slack-performance relationship. Their position rests on efficiency concerns due to the risk of unproductive self-serving behavior, misuse of managerial discretion, lacking incentives for strategic moves, the overreliance on buffers and thus a general slow-down of strategic aggressiveness (Jensen 1986, Litschert & Bonham 1978, March & Simon 1958, Yasai-Ardekani 1986). In short, they argue that 'slack offers a margin of error' (Cheng & Kesner 1997 p. 3) and hides the firm's strategic inertia by covering up its mismatch to the actual internal or external demands (Cheng & Kesner 1997, Litschert & Bonham 1978, Yasai-Ardekani 1986). Accordingly, 'in conventional economic theory, slack is zero' (Cyert & March 1963 p. 37). Bourgeois (1981 p. 30) criticized this view since every firm needs a shock absorber to avoid continuous disruptions and firefighting. More recently, researchers have reconciled both views assuming a curvilinear relationship between slack and performance where both an extreme abundance and resource scarcity have negative performance implications (e.g., Bourgeois 1981, George 2005, Love & Nohria 2005, Nohria & Gulati 1996, Sharfman et al. 1988, Tan 2003, Tan & Peng 2003). Yet, empirical findings are mixed and continue to reflect the two different camps. Singh (1986) found a positive performance link for absorbed and unabsorbed slack. Testing the different sub-categories of slack, Bergh & Lawless (1998) empirically proved a positive relation between available slack and performance but a negative for potential slack. Within a context of recession, Srinivasan et al. (2005) showed that greater slack levels enhanced firms' proactive marketing efforts. Rust & Katz (2002) reported a non-linear relationship between slack and performance using changes in the workforce level

as a moderator to capture the effects of downsizing on the main effect. By means of a meta-analysis, Daniel et al. (2004) tested both views and found support for the slack as a valuable resource argument. Whereas the majority of empirical studies focused on available financial slack (George 2005, Kim et al. 2008, Bradley et al. 2011) researchers have increasingly mentioned other types of slack such as recoverable human resource (HR) slack, relational slack or recoverable administrative slack (e.g., Aaker & Mascarenhas 1984, Love & Nohria 2005, Mellahi & Wilkinson 2010, Mishina et al. 2004, Voss et al. 2008, Welbourne et al. 1999, Zhong 2011). Zhong (2011) drew on a sample of Chinese firms to provide evidence of a non-linear U-shaped relation between HR slack and product innovation. Paeleman et al. (2012 p. 7) tested an interaction effect between financial and HR slack on venture performance and found it to be negative while both slack types by themselves had positive performance implications. Voss et al. (2008) tested the effects of HR slack on product exploitation and exploration as performance indicators. They found a positive relation for the former and hypothesized a negative but empirically unsupported link for the latter performance variable. With regard to slack as an agent of strategic change (Bourgeois 1981), Oktemgil & Greenly (1997 p. 461) found that more adaptive firms had greater slack levels which they used to quickly put marketing activities in place and seize product-market opportunities. Cheng & Kesner (1997) linked slack to firms' competitive response as a dependent variable and found that the relationship was moderated by the firms' strategic orientation which they portrayed as resource allocation patterns. They empirically showed that the link between slack and market performance was positive for the firms that allocated more resource to activities that strategically targeted external market effectiveness. It was negative for firms that focused their resource allocation on internal efficiency which indicated that these firms applied their excess resources in a more reactive fashion (Cheng & Kesner 1997). Their study is remarkable because it reconciled the two opposing views on slack within one empirical model and showed that not only the level of slack matters but also the purpose for which the excess resources are used. Voss et al. (2008 p. 151) argued that the way in which firms respond to environmental change depends on the level and nature of their slack endowment. The value of slack rests on firms' utilization of slack because performance can only result if the resources in excess have been allocated to productive sources (Mishina et al. 2004 p. 1182, Onsi 1973 p. 535). The above reviews on slack and flexibility suggest some interesting interfaces between the concepts that we will theorize about within the model conceptualization chapter.

5.4. Novelty in the Market Activity

In general, firms make use of externally-oriented marketing actions to engage in exchange processes with the market (Davis et al. 1991 p. 44). Market actions represent the way in which firms communicate and compete in and interact with the market. These competitive moves reflect managers' concrete market decisions and frequently comprise different types of marketing mix activities such as pricing actions (e.g., discounts, extra gifts), mar-

ket promotions, new product introductions or announcements, significant product improvements, distribution actions, marketing and promotional campaigns or market signaling actions (Ferrier et al. 1999, Smith et al. 1991, Young et al. 1996). Herein, we follow Ferrier et al. (1999 p. 377-378) who defined competitive actions as 'all externally directed, specific, and observable newly created moves initiated by a firm to enhance its competitive position' (based on Chen et al. 1992, Smith et al. 1991, Young et al. 1996). They are thus designed to make a marketing impact and initiate market responses from customers and competitors (Rust et al. 2004a p. 77). Several researchers have assumed a positive relationship between the number of market actions and firms' competitive aggressiveness (D'Aveni 1994, Ferrier et al. 1999 p. 374, Young et al. 1996). For Baron (1997 p. 146) market actions are applied to 'create value by improving economic performance'. This is in accordance with the Austrian School which promotes a positive link between firms' market activity and favorable competitive positions that help to attain profits (Kirzner 1976, Schumpeter 1934, 1950). Firms with a sustained high level of market activity were found to outperform those with lower levels (D'Aveni 1994 pp. 12, 258, 364, Ferrier et al. 1999, Grimm & Smith 1997, Miller & Chen 1996, Smith et al. 1992, Young et al. 1996). Besides the total number, the degree of novelty in the combination of action types is said to be beneficial because competitors would shoot at a sitting target in the absence of surprise effects (D'Aveni 1994, Srivastava et al. 2001 p. 790). We interpret more novel market action patterns as an indicator for firms' increased flexibility because these firms are able to leave the beaten track. Market actions can contribute to the creation and leverage of the intangible off-balance sheet marketing assets (e.g., customer satisfaction, brand value, customer equity; Rust et al. 2004a p. 77). Yet, the right timing and the implementation speed are critical for the effectiveness of competitive actions because rapid actions and a recombined action repertoire have been said to be a source of competitive advantage particularly for firms in dynamic environments (D'Aveni 1994, Ferrier et al. 1999, Smith et al. 1992). For researchers, market actions are also relevant because they provide insights into the invisible internal resources and capability practices of firms. Importantly, they reflect the usage of resources and the effectiveness of the underlying resource allocation processes (Slotegraaf et al. 2003 p. 296). They describe the degree to which the firm's resources are managed and put into action in the marketplace to create market responses (Slotegraaf et al. 2003 p. 296). Theoretically, firms are almost unlimited in their choice of the level and the composition of market actions. In practice, however, a lack of resources (e.g., financial, human resources) and capabilities (e.g., experience in analyzing previous market responses, flexibility) defines the portfolio of feasible actions in the short-run. Researchers have captured these aspects in the variability, diversity or range of the firms' action repertoire (Basdeo et al. 2006, Ferrier et al. 1999, Grimm & Smith 1997, Miller & Chen 1996). Basdeo et al. (2006) argued that the complexity of firms' competitive action set conveys information about their ability to conquer, defend or improve their market position (Ferrier et al. 1999, Grimm et al. 2005). It is therefore

highly relevant for our study about flexibility that a greater degree of novelty in the market activity seems to indicate strong resource allocation capabilities which, in turn, infuses the firm with value (Young et al. 1996).

5.5. Customer Equity-based Residual Value of the Customer Base

Marketing aims at building and sustaining long-term exchange relationships with customers (Dwyer et al. 1987). More recently, the marketing discipline has started to focus on the creation, active management and retention of the more profitable customer accounts. Turning away from single transaction management practices, researchers and increasingly also managers have considered customers as a revenue stream that lasts throughout the relationship with the firm. Concepts such as customer-lifetime-value (CLV; Blattberg & Deighton 1996, Courtheoux 1995, Dwyer 1989, Gupta et al. 2006) and customer equity (CE; Berger et al. 2006, Rust et al. 2004b, Srivastava et al. 1998) have evolved to capture firms' ability to collect profits from their current and future customers (Shugan 2005). CLV is defined as the present value of current and projected future revenues reduced by the costs incurred by the firm during the exchange relationship with an individual customer (Bitran & Mondschein 1996, Dwyer 1989, Gelbrich & Nakhaeizadeh 2000 p. 154, Gupta 2009 p. 171, Jackson 1994). CLV models use the costs incurred for attracting, selling and serving the customer to evaluate the profitability of the exchange relationship. They support marketers' resource allocation decisions in that they contrast the present value of the expected inflows over the duration of the firm's relationship with a specific customer (i.e., the customer lifetime) with the investments required for the customer value-enhancing market activities. Closely related, customer equity is defined as the total of the discounted lifetime values summed over all customers of the firm (Bayón et al. 2002, Berger & Bechwati 2001, Blattberg & Deighton 1996, Gupta et al. 2006 p. 139, Rust et al. 2000). 'The combined lifetime values of all current and future customers yield the value of the customer base, which represents the entire operating cash flow of a firm' (Bauer & Hammerschmidt 2005 p. 332). It quantifies the individual present and future 'when, what, how much and where' decisions to (re-) purchase the product or service across all the firm's customers (Gupta et al. 2006 p. 140). CE denotes the sum of the returns from the firm's investments in customer acquisition and retention (Blattberg & Deighton 1996). This collective long-term value of the customer base has become the key measure of the customer relationship value (Gupta et al. 2006, Rust et al. 2000). The customer-based valuation infuses the company with a customer-centered perspective by considering customers as assets (Gupta et al. 2006 p. 139, Rust et al. 2004a). It quantifies current and expected future financial flows from the individual customer relationships and sums these discounted cash flows in order to assess the customers' economic value for the firms (Bauer & Hammerschmidt 2005). Customer lifetime value-based models aim at an optimized resource allocation and customized marketing strategies in order to target the most profitable customer accounts and thereby maximize the return on marketing investment (Kumar & Reinartz 2006, Mulhern 1999 p. 25/36). Researchers have developed empirical CLV- and CE-based models to guide marketing decisions such as

which customers to acquire, retain or refrain using what kind of marketing actions (e.g., selection of pricing strategy, optimal promotion budgets, media buying decisions, retention programs; Gupta et al. 2006, Rust et al. 2004b). The ultimate aim is to pick the promising customers and allocate the right resources to them to create a regular exchange relationship with these customers and thereby optimize the CLV (Venkatesan & Kumar 2004 p. 108).

Given the large cost position that marketing assumes in the books of many firms, the discipline has come under considerable pressure to present tangible evidence of marketing's return on investment to justify its existence (Gupta 2009 p. 169). Yet, this is challenging because marketing has traditionally focused on soft factors such as pleasing the customers by meeting or exceeding their needs and wants. Following calls for more studies that link marketing to firm-level metrics, researchers (e.g., Berger et al. 2006, Gupta et al. 2006) have presented conceptual models that relate marketing decisions and market actions to firm-level metrics such as customer equity-based firm valuation to show that marketing is a worthwhile investment rather than just an expense (Gupta & Lehmann 2005). Berger et al. (2006) indirectly linked marketing actions to financial performance on the firm-level by suggesting that CLV and CE serve as a mediating factor between market actions and firm value. There is empirical evidence that customer equity can be a reasonably good approximation for firm and shareholder value (Bauer & Hammerschmidt 2005, Berger et al. 2006, Gupta et al. 2004, Kim et al. 1995, Rust et al. 2004b, Wiesel & Skiera 2005, Wiesel et al. 2008). Such integrated models have become relevant because they help revealing marketing's impact on firm value (Bauer & Hammerschmidt 2005, Gupta et al. 2006, Hogan et al. 2002). Gupta (2009 p. 170) presented a conceptual framework that linked marketing to firm value by arguing that marketing actions (e.g., advertising, sales promotion, product launches) influence the attitude and behavior of customers which, in turn, affects product purchase patterns. The amount, frequency and repurchase behavior of the resulting customer purchase decisions constitute the key input variables of CVL-based models (Gupta et al. 2006, Rust et al. 2000). Gupta (2009 p. 170) linked CLV to the value of the firm thereby ascribing financial implications to marketing actions. Given that flexibility has also been related to resource allocation decisions, we find it surprising that the value-based logic of marketing research has not been applied to market-focused flexibility contexts. Our study attempts to fill this gap. We use the customer equity-based residual value of the firm's customer base as a performance measure and define it as the total of the discounted residual value streams summed over all customers of the firm during a prespecified period.

5.6. Overall Conceptual Model Framework

The preservation and protection of customer value have been referred to as the core purposes of marketing (Srivastava et al. 2001 p. 790). Employees in marketing, sales and distribution functions are a critical element for building and maintaining customer value enhancing market linking capabilities such as product management, distribution and

channel management, pricing, marketing communication, selling and marketing mix orchestrating capabilities (Day 1994, Morgan et al. 2003, 2009, Noble & Mokwa 1999, Vorhies & Morgan 2005). The performance of these functions which are involved in the creation of customer value highly depends on the capabilities of the workforce. Naturally, these functions are, to a large extent, externally oriented and can thus be easily threatened by change (Day 1994, Srivastava et al. 2001 p. 780). This exposure consequently means that the human resource force must be highly amenable to change. Flexibility, in this context, has become an important term because it has been argued to provide positive performance implications for firms particularly with regard to the ones operating in highly competitive environments. Herein, we link human resource (HR) slack in different organizational functions to flexibility and argue that slack is a meaningful concept and a means of creating flexibility. In response to calls for more research on the non-financial slack types, we concentrate on HR slack because firms build marketing capabilities by drawing on their employees' knowledge and skills to solve marketing problems and effectively implement marketing programs (Di Benedetto & Song 2003 p. 518, Love & Nohria 2005, Mellahi & Wilkinson 2010, Mishina et al. 2004, Vorhies et al. 1999 p. 1175, Voss et al. 2008, Welbourne et al. 1999). We also focus on HR slack because the strategic management of human resources has been found to have critical performance implications (e.g., Green et al. 2006, Hitt et al. 2001, Youndt et al. 2004). Based on Bourgeois' (1981 p. 30) general definition of slack, we describe HR slack as human resources that are in excess of the quantitative amount of resources required to meet the current demands made on the workforce and to support current sales levels. In practice, this number divided into some uncommitted working time of the employees. We intentionally excluded the qualitative aspects of underutilized human resources such as overqualification. While many researchers concentrated on determining the appropriate level of slack (e.g., Lawson 2001, Rust & Katz 2002 p. 4), we will focus on the appropriate location of slack resources within the realms of the firm. This is based on Mishina et al.'s argument (2004 p. 1182, see also Onsi 1973 p. 535) that growth can only result if the resources in excess have been allocated to productive sources. It has also been inspired by the logic of previous research that a careful allocation of marketing resources to the promising customer accounts drives CLV and CE (Kumar & Reinartz 2006, Mulhern 1999 p. 25/36). Enhancing this logic, we propose that the well-directed allocation of resources to the promising firm locations is as important for driving customer value as the overall resource level itself. In general, managers must decide whether they want to tolerate slack resource levels. If so, they must also effectively manage these intended slack resources which means they need to decide about the appropriate level of slack and holding it in the right places. This is clearly a resource reallocation decision. As a central proposition, we argue that HR slack is not per se good or bad for profitable customer value creation. Rather, the value relevance of slack depends on its location within the firm because holding a fully functional but undifferentiated set of excess resources has been criticized for being prohibitively costly and may not be reconcilable with the resource scarcity in competitive environments (Sirmon et al.

2007 p. 278). With the spread of lean thinking, the all-embracing buffering approach has thus become a less attractive choice (Anand & Ward 2004).

In contrast to most financial resources, a large share of the human capital is context dependent and embedded in the firm's structures, processes and routines (Bourgeois & Singh 1983, Love & Nohria 2005 p. 1089, Mishina et al. 2004, Nonaka 1994, Voss et al. 2008 p. 151). Human resources in excess of the current demands form a part of firms' recoverable slack (Bourgeois & Singh 1983). These underutilized resources have been absorbed by the system so that HR slack cannot interchangeably be applied to multiple purposes and different situations (Mishina et al. 2004 p. 1183, Voss et al. 2008 p. 151). As a consequence, unlocking and transferring HR slack into competitive advantage has challenged numerous managers (Zhong 2011 p. 1). Donaldson (1971) observed that several managers were concerned about their firms' unused resource capacity and their ability to redirect the use to other purposes in order to flexibly respond to new information. We pick up on this challenge and argue that within the limits of related fields of work activities, certain functional groups of human resources in surplus of the demands may constitute unexploited internal options. Within their functional areas, these groups hold capabilities that may have the potential to unfold high market-focused resource option value. This is where resource reallocation capabilities, i.e., the creation of flexibility, comes into play to unlock these resources and transfer them into valuable use. Researchers have emphasized that firms do not need to shield from uncertainty as long as they are able to act or respond fittingly (Ittner & Kogut 1995). This is exactly the difference between the undifferentiated use of slack for buffering purposes and its more sophisticated strategic use for creating flexibility. The former may buffer against hardship but it does not lead to the active creation of customer value enhancing capabilities. While firms may be shielded, nevertheless, they do not develop capabilities to be adaptable and capable of change nor are they able to initiate change in the environment. In fact, buffering does not equip firms with the highly valuable options. Holding a portfolio of options, i.e., a set of alternative paths for future events, is interesting because it allows firms to take feasible and appropriate actions should the need arise, in fact, it makes firms more flexible (Englehardt & Simmons 2002, Marschak & Nelson 1962). We have defined market-focused flexibility as the ability to be adaptable and capable of change to rapidly respond to or initiate a wide range of situations and demands to satisfy the market expectations without incurring excessive costs, organizational disruptions or performance losses. This capability-based view helps us to substantiate the abstract notion of options. Firms structure and organize their options in the form of capabilities. Consistent with former research, for us, flexibility rests on a sequence of internal reallocation processes to rapidly reassemble the involved skills and capabilities. To link slack to flexibility, we argue that slack resources in specific locations are attractive not because they constitute environmental buffers but because they are good stores of options (Jones & Ostroy 1984 p. 14). Kept within reasonable limits and allocated to the right places, the level of slack determines the range of available options open for managers to access at any time (Cheng &

Kesner 1997 p. 3, Miles 1982). Hence, the development of capabilities appears to be a way of creating and storing actual or potential flexibility residing in the firm's memory available for the activation at short notice (Gerwin 1993, Koornhof 2001). In this paper, we therefore focus on the flexibility creating value of holding a differentiated set of slack resources, i.e., excess resources in the right places which is clearly a resource allocation decision. Firms' allocation decisions, in turn, have been argued to be critical for the value creation and competitive positioning (Trigeorgis 1996 p. xi).

Researchers have distinguished between specialized marketing capabilities that reflect the task-specific marketing activities of the firm's employees and architectural or inside-out capabilities that support the firm's differentiation strategies (Vorhies et al. 2009 p. 1313, Day 1994 p. 42). Building on that, we differentiate between customer value creating and customer value supporting functions in marketing, sales and distribution contexts. Employees in customer value creating functions are those who shape 'the value customers perceive and experience through interaction with the firm and its offerings that entice them to continue doing business with the firm' (Srivastava et al. 2001 p. 790). These functions include the firm's market linking activities to identify customers' needs and deliver superior value propositions. Employees in customer value supporting functions, in contrast, deliver integrated support services to ensure a well-organized process architecture for all services that are not directly visible to enhance the customers' value perceptions. These functions act as a back-up to ensure a frictionless course of business. Functions such as accounting and back office services serve as supportive devices to secure customer value creation but they do not directly create pleasurable customer experiences by themselves as they go unnoticed by the customer.

Cheng & Kesner (1997) related firms' resource allocation patterns to their strategic orientations. They interpreted firms' monetary resource allocation levels towards marketing actions as external orientation and spending for operational maintenance as a signal for an internal orientation. Based on this, they established a positive slack-to-market-performance relationship for firms with a greater market effectiveness orientation and a negative for the latter ones with an internal efficiency resource allocation focus. Their study described slack from the two contrasting positions frequently discussed in literature, slack as a valuable resource and slack as an inefficiency. Their findings supported our line of argumentation that location matters and encouraged us to test this assumption based on slack in customer value supporting and customer value creating locations. We attempted to advance their meaningful empirical findings by directly testing the performance implications of slack in different locations without taking the detour via strategic orientation. Thereby, we responded to Tan & Peng's (2003) call for testing competing slack hypotheses to specify the circumstances under which slack constitutes either a productive resource or implies additional costs of buffering for eventualities that may not necessarily materialize (Aaker & Mascarenhas 1984 p. 76). Tan & Peng (2003) argued that both perspectives have their raison d'être but researchers must provide recommendations for the

situations under which these opposing views can be supported. Customer lifetime value and customer equity-based measures have increasingly been used to measure the success of the firm in establishing and maintaining profitable relationships with customers (Berger et al. 2006, Gupta et al. 2006, Rust et al. 2004b, Srivastava et al. 1998). While unexpected environmental changes can have an impact on the accuracy of customer-equity based models, remedy may come from the camp of flexibility research as flexible firms have been said to be able to deal with these unexpected environmental circumstances more effectively (Dorrington & Goodwin 2002). We therefore combined these two statements not only to test in which locations HR slack constitutes a means of market-focused flexibility but also whether firms that are able to allocate slack to the right locations, i.e., the more flexible ones, also improve their customer equity-based residual value of their customer base. This ensures that firms do not incur excessive costs, organizational disruptions or performance losses - conditions that constitute an essential part of our flexibility definition. Figure 6 reflects this chain-of-effects conceptualization. Within a first step, we relate the impact of slack in different functional locations, i.e., in customer value creating or customer value supporting functions to a customer equity-based performance measure. We test these direct effects of slack resources on the level of the customer equity-based residual value of the firm's customer base to assess the general direction of these focal relationships. In a subsequent step, we link slack in different functional locations to flexibility outcomes before relating flexibility to the customer equity-based residual value measure. Our framework provides insights into the performance outcomes of resource allocation decisions and the firms' ability to draw on slack resources as a source of flexibility. Thereby, we open the black box of value creation by linking slack to firms' choice of the market action repertoire which is, in turn, an antecedent of the customer-based firm value. Based on the ideas of Rust et al. (2004b), our model enables us to assess the financial implications of slack-based resource allocation decisions for customer-based firm valuation. It also permits a separation of resource possession and resource deployment, as proposed by Slotegraaf et al. (2003) because 'not all allocated resources are always deployed' (p. 296). Beyond this, the model provides insights into both, the reactive as well as the proactive use of excess resources to create flexibility and customer value. We will hypothesize about these relationships within the next paragraph.

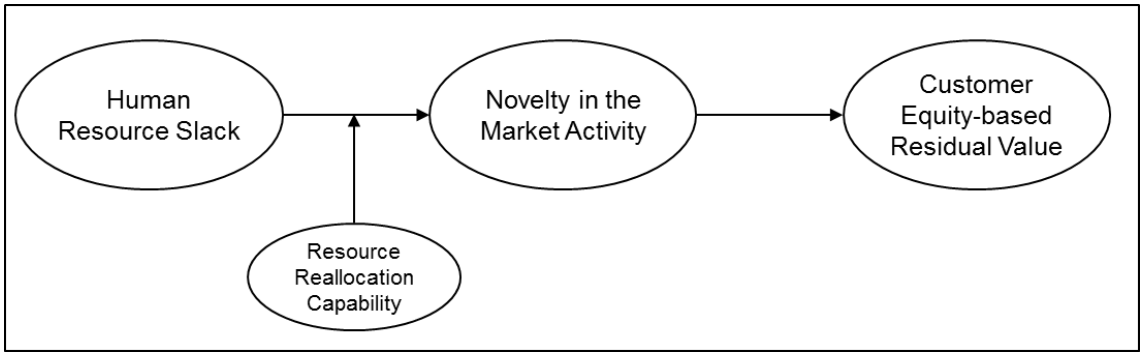

Figure 6: Conceptual framework (study II)

5.7. Hypotheses

Customer equity-based measures have frequently been used to optimize resource allocation decisions. While this has mainly been done with regard to the use of specific marketing actions such as pricing strategies, promotion budgets, media buying decisions or retention programs (e.g., Gupta et al. 2006, Rust et al. 2004b), we transferred this logic to anteceding human resource allocation decisions. Within a first step, we wanted to understand the impact of HR slack that is located in customer value creating and supporting functions on the value of the firm's customer base.

Previous research contributions have suggested that employees with some excess working capacity could provide a means to cushion changing work intensities and unexpected events (e.g., Bourgeois 1981, Cheng & Kesner 1997). In accordance with the literature on slack, these employees can be assumed to use their spare time to give thought to internal process improvements because slack leaves room for activities that are beyond their general work routines. Earlier, we defined employees in customer value supporting functions as the ones who deliver integrated support services to ensure a well-organized process architecture. For these employees that take care of the internal processes, we expect that slack in customer value supporting functions will contribute to the firm's internal quality and process effectiveness because they can dedicate some of their spare time to improve the processes they regularly deal with. Thereby, slack resources in these functions can indirectly contribute to business performance by lowering the obstacles of doing business through smoothing processes or even decreasing the costs of serving the customers. Still, while process innovations and improved workflows would be useful from the internal perspective, this focus on internal processes is unlikely to be a direct source of competitive advantage in markets where firms compete on superior value delivery (Woodruff 1997 p. 140). Customers could perceive these improvements as a necessary but not sufficient condition. These enhancements would be unlikely to attract the attention of customers because the capabilities of employees in customer value supporting functions are not intended to solve externally directed marketing problems. Customer value arises when customers perceive preferences for product attributes, the attributes' performance or for the consequences that arise from the use relative to the sacrifices they made (Woodruff 1997 p. 142, Monroe 1990 p. 46). While we admit certain indirect value contributions, these benefits are likely to be offset by the costs of holding slack levels in these functions for unspecified purposes with uncertain outcomes. Thus, we argue that the costs of holding resources that are in excess of the demands prevent firms from passing on cost advantages to the customer. As a result, the customer value contribution of slack in supporting functions for firms' products and services can be expected to be negative. Holding slack in these functions whether used as a buffer against unexpected events or for improvements in process effectiveness is likely to be a cost to the firm and the customer. From a customer equity-based valuation perspective, slack resources in these customer value supporting locations would represent a burden for the firm because their indirect contribution to customer value would not offset their costs. Consistently, we propose a

negative relationship between HR slack in customer value supporting functions and the customer equity-based residual value of the firm's customer base.

Hyp. 1: *The greater the level of human resource slack in customer value supporting functions, the lower the firms' customer equity-based residual value.*

From the accounting point of view, HR slack in customer value creating functions is an expense on the income statement just like slack in customer value supporting functions. In contrast to the generally accepted accounting principles but in a line with marketing researchers (e.g., Bauer & Hammerschmidt 2005 p. 333, Gupta & Lehmann 2005, Gupta 2009 p. 170) we deem HR slack resources in customer value creating functions as an investment for the preservation and protection of long-term marketing assets. In case of unexpected events and environmental change, some spare capacity in these functions can act as a cushion to prevent the firm from disappointing customers or missed opportunities that could result for firms that do not have the capacity to act flexibly at times when there is need or the desire to do so. This primarily concerns the functional areas of marketing and sales because they are expected to respond to market changes in real-time. Here, actions or the inability to act directly touch upon the customers' value perceptions. Nevertheless, while unexpected change may challenge firms on a high intensity but with low regularity (Volberda 1998) this also implies that firms may hold slack resources for events that never or hardly ever materialize. Similar to slack in customer value supporting functions, this would constitute a cost to firms that are not able to make use of slack resources other than for buffering purposes. With regard to customer value creating functions, we argue that firms with uncommitted working capacity in customer value creating functions can also draw on these excess resources to create or enhance customer value propositions. This is because employees in these functions are directly meant to engage in the customer linking activities that catch the interest of the market and the customers (Day 1994, Johnson et al. 2003). Drawing on the direct link to the market and their knowledge about the customers' needs and desires, employees in customer value creating functions can be expected to use their capabilities during the uncommitted working time to engage in creative thinking and experimentation with potential future marketing concepts. We propose that customer-value enhancements can result when these employees have some degree of freedom to leave the beaten track of their normal work routine and spend some time to experiment with their market-focused capabilities. All in all, HR slack in customer value creating functions provides a means to navigate through times of unforeseen changes. Therefore, we suggest a positive relationship between slack in customer value creating functions and the customer equity-based residual value of the firm's customer base.

Hyp. 2: *The greater the level of human resource slack in customer value creating functions, the greater the firms' customer equity-based residual value.*

Our literature review revealed that the slack phenomenon has challenged researchers and managers alike because of its different faces constituting an inefficiency in one context and a promising option in another (Bourgeois 1981, Cheng & Kesner 1997, Daniel et al. 2004 p. 566, Greenley & Okemgil 1998). To shed more light on this, we were especially interested in the mechanisms through which firms convert their HR slack into customer value propositions and customer equity. We took firms' market actions into consideration because they constitute the deployment mechanism through which firms consciously make use of their marketing resources and capabilities. More precisely, we investigated the degree of novelty in firms' market activity and perceived this novelty in firms' market actions as an intermediate outcome of slack resources. Timely and effective market responses have been linked to performance outcomes especially in highly competitive and dynamic markets (Jayachandran et al. 2004, Kotler 2004, McKean 2002). Moreover, diversity in market actions has frequently been suggested to capture flexibility (e.g., Evans 1991, Krijnen 1979, Mandelbaum 1978). This is because market-focused flexibility is created internally through rapid reallocation processes but it becomes visible only in the way the firm is able to interact with the market. For us, the created flexibility manifests in a more novel combination of market actions. This is because all firms act on the market but only the flexible ones are able to deviate from the common route of market actions and keep the customers happy by presenting novel and exciting combinations of market actions. In general, firms with slack resources have been found to be more adaptive and use the resources that are in excess of their current demands to quickly initiate actions to capitalize on product-market opportunities (Oktemgil & Greenly 1997 p. 461, Thompson 1967 p. 150). For us, it follows that relying solely on the link between slack and performance, as done by most researchers, could result in misleading conclusions because the pure possession of resources is not of any value in the eyes of the customers. Slack has been found to be a result of firms' past success (Greenley & Oktemgil 1998). Therefore, researchers cannot automatically assume that slack resources indicate flexibility. In fact, some firms or departments could be unable or unwilling to quickly convert excess resources into productive use (Mishina et al. 2004 p. 1183). While important, our above hypothesized focal relationships do not allow theorizing about the actual deployment of slack resources and their flexibility potential. Consistently, Johnson et al. (2003) argued that firms need to have both, the intention and the capabilities to act flexibly. In fact, researchers must carefully investigate whether firms de facto make use of their HR slack as a source of market-focused flexibility. Interestingly, Slotegraaf et al. (2003 p. 296) separated these resource allocation decisions from the deployment processes. They empirically tested the relationship between resource deployment and performance moderated by the level and type of resource endowment. Based on this, we also isolated the procession of slack resources from their deployment in the market. We believe that the characteristics of the selected set of novel competitive actions reflect the firms' effectiveness in translating their HR slack resources into actions that convey favorable value propositions to present and potential customers. In brief, the level of firms' novelty in market activity reflects the degree of slack utilization (Slotegraaf et al. 2003) because the pure

possession of slack resources could also be an indicator of firms' inertia. Merging this, we argue that the novelty in market activity is a critical immediate indicator of firms' effective use of HR slack resources. It indicates firms' capacity of making market-focused use of excess resources by quickly transferring them back into productive alternative uses, in other words, their flexibility creation potential drawn from slack resources.

With respect to customer value supporting functions, we argue that uncommitted working hours do not come along with greater degrees of freedom in the conduct of market activities because slack in this functional location does not allow for a novelty element in market actions. Employees in these functions provide administrative and support services to ensure a solid business process structure. They are expected to deliver reliable support services and smooth processes for their internal customers of the neighboring customer value creating functions. Market-focused creative degrees of freedom and opportunities to directly touch upon customer value enhancing actions are naturally extremely limited because employees in these functions have the collective knowledge and skills to improve processes but lack market-linkages and expertise gained through market contacts. Although the creative potential of these workers can be used for process improvements, these changes do not directly touch the market to shape the customers' value perceptions. These excess resources could be used for process-related activities but from a market-focused perspective, support activities such as accounting and general business administration do not unfold high resource option value to contribute to the rapid creation of a more novel combination of market actions. In fact, with regard to market-focused flexibility, customer value supporting functions disclose the limits of the functional-related and absorbed nature of HR slack. Employees with excess capacity can handle things differently or assume related tasks within the realm of the business area they have been assigned to. Their function-specific expertise in customer value supporting tasks, however, makes it impossible for firms to quickly recover the working time that is temporarily in excess of the demands and rapidly assign it to the more market-focused applications. Note that we are not saying that it is impossible at all. Rather, we stress that market-focused flexibility requires rapid resource reallocation processes. These cross-functional transfers are unrealistic in the very short-run due to the absorbed and highly embedded nature of HR slack. We have stressed that speed matters for firms to be called flexible. From a market-focused perspective this is the limiting factor for slack in customer value supporting functions. This argumentation line is consistent with Bourgeois (1981 p. 30) who argued that slack resources help to adapt successfully to internal pressures for adjustment which points towards internal efficiency rather than market effectiveness. We assume that slack in customer value supporting functions tends to be used as a workflow cushion in demanding situations without enabling firms to translate the resource option value into market effectiveness and thus market-focused flexibility outcomes. While these buffering resources may be rewarding in unexpectedly high levels of capacity utilization, we put forward that they do not contribute to the rapid creation of market activity with differentiating novelty effects. We therefore suggest the following hypothesis:

Hyp. 3: *The greater the level of human resource slack in customer value supporting functions, the less novel the combination of market actions.*

We propose that employees in functions which are directed towards the market are able to use uncommitted working hours for creative, customer value creating tasks. Competitive markets have frequently been characterized as having a high turnover of events, volatility and dynamism (e.g., D'Aveni 1994). During unforeseen events and rapid changes in market demands, firms that want to be adaptable and capable of change to respond to a wide range of situations and demands need to handle a sequence of reallocation processes on the operational level. They require the capacity to rapidly reassemble the involved operating capabilities and resources at hand in a strategic and well-targeted manner to generate timely actions should the need arise. Resources in excess of the needs to efficiently run the business allow for immediate actions to capitalize on arising opportunities or avert threats (Chattopadhyay et al. 2001, Thompson 1967 p. 150). Based on their market know-how, employees in customer value creating functions can reassign their priorities to the areas in need which will meet firms' immediate flexibility requirements. A workforce that is at its upper bound of the capacity limit, by contrast, can only engage in firefighting activities and does not have time to sense the market for weak signals and customer needs. In fact, a workforce that works at its full capacity does not have the resources to grow and make use of its entrepreneurial mindset, draw on its creative skills and develop new capabilities (McGrath & MacMillan 2000). The firm cannot access and lever its market potential and make use of the resource option value inherent in slack resources in customer value creating functions although the creative resources bloom in the dark. We believe that employees in customer value creating functions are capable of sensing expressed market needs and changes and subsequently assume actions to make use of this potential as long as they have some working time at their disposal, i.e., when there is slack in customer value creating functions. We argue that they are able to create market responses and refine market actions based on a sense-and-response approach (Bradley & Nolan 1998, Jayachandran et al. 2004). We further assume them to assign their spare capacity on their own authority based on their market experience and customer knowledge. Voss et al. (2008 p. 151) presented empirical evidence that higher slack levels positively affect an exploitive market behavior. Still, the researchers also suggested that a firm's environmental response depends on the nature of its slack endowment. In fact, the use of HR slack for well-directed strategic purposes may be limited because of the uncoordinated usage of these excess resources. More specifically, we assume that these employees can use their excess work capacity to avert threats or exploit openly visible market opportunities. Their actions are thus concentrated on the expressed customer needs and wants. For us, this situation demonstrates the reactive use of slack resources for flexibility purposes because the employees' spare time has not been re-allocated to other purposes in a coordinated and strategic manner. Rather, the employees react to changes or pressures in the external environment based on their own authority by assuming tasks that are determined by the current market developments as perceived by their

‘sense-and-response’ approach. We expect the resulting combinations of market actions to convey novelty elements and thus market-focused flexibility. Nevertheless, this use of HR slack is of a reactive and exploitive nature as it stems from evident market opportunities and already expressed customer needs. Within this reactive scenario, employees with an excess working capacity are able to rely on a sense-and-response market approach because they generally work very closely to the current needs and wants of the market (Bradley & Nolan 1998, Jayachandran et al. 2004). This implies that the value of slack depends on its utilization which is in a line with Mishina et al. (2004 p. 1182, see also Onsi 1973 p. 535) and fits into our main line of argumentation that customer value creating market-focused flexibility can only result if the resources in excess have been allocated to productive sources. This line of argument further specifies Oktemgil & Greenly’s (1997 p. 461) general empirical findings that firms with greater slack levels use these resources to quickly detect product-market opportunities and select marketing activities and that they are thereby more adaptable. We assign this ability only to slack in customer value creating functions but not to customer value supporters. Slack in customer value creating functions is beneficial for firms because it provides the flexibility to avert threats or act upon opportunities. With regard to this reactive perspective, flexibility arises by means of the self-selecting mechanism by which employees sense the need for change and act drawing on their market-focused capabilities by reassigning their spare resources by themselves to the areas in need. The resource reallocation process underlying the creation of flexibility is based on the employees’ sense-and-allocate discretion. We propose that the HR slack in customer value creating functions becomes visible in the firms’ ability to create market maneuvers that are more unexpected and a greater novelty for the market. This is an indicator of firms’ greater flexibility. Consistently, we present the following hypothesis:

Hyp. 4a: *The greater the level of human resource slack in customer value creating functions, the more novel the combination of market actions.*

Having observed the reactive use of HR slack where employees commit their spare resources to the visible needs and developments of the market, we now shift to the more proactive use of slack resources in customer value creating functions. While the reactive use of slack is an extremely quick way of creating novel market actions because there are no intermediary authorities that could slow down the actions, managers may criticize the lack of a coordinated and well-targeted strategic use of these excess resources with regard to the self-selecting mechanism. This concern mirrors what Sanchez (1995) called resource flexibility, i.e., the degree to which a resource can be applied to a larger range of alternative uses. Slack endows firms with the opportunity to experiment with different resource (re-) combinations. Still, having reviewed the relevant flexibility and slack findings, we do not unconditionally subscribe to the view that HR slack automatically endows the firm with flexibility in every situation. Sanchez (1995) noted that the unavailability

of resources constrains firms' strategic flexibility. He stressed that firms need coordinating capabilities to make full use of their resources to strike alternative courses of action and called this ability coordination flexibility. Penrose (1959) described unused resources as waste while she noted that 'they are 'free' services which, if they can be used profitably, may provide a competitive advantage for the firm possessing them' (p. 68). For us it follows that firms that want to continuously deliver superior value to customers in competitive environments must also be flexible in a proactive market-focused way, i.e., they must be able to rapidly re-allocate their human resources to satisfy uncovered market needs before competitors do so. Human resources 'provide the infrastructure for the creation, preservation, and exercise of corporate real options' (Trigeorgis 1996 p. xi) to improve the strategic positioning. In fact, for slack resources to have an undisputed right to exist, firms must be able to fully access their inherent dormant options and make productive use of them as their costs could otherwise exceed the benefits of holding excess resources for situations that never materialize. We therefore argue that some firms are more able to fully access the resource option value of their employees by drawing on more sophisticated resource reallocation processes. In marketing, sales and distribution contexts, the capabilities relevant for market linking activities are closely connected to human resources. However, the availability of human resources to engage in exchange processes that customers appreciate is not sufficient. Firms must also use their marketing capabilities as integrative processes to apply their resources (Vorhies et al. 1999 p. 1175). Firms require the capability to quickly re-allocate these resources to areas where they can unfold the greatest value contribution. We argue that a firms' resource reallocation capability is one of these capabilities to unlock the full potential of HR slack by strategically appointing excess capacity to related organizational areas with promising value potential. Beyond this, firms also need to be able to 'act promptly when it is time to halt or reverse such resource commitments' (Shimizu & Hitt 2004 p. 45). We therefore emphasize that flexibility, from the resource allocation perspective, does not only cover the initial allocation of excess resources but also includes subsequent reallocation decisions for firms to benefit from these competences (Slotegraaf & Dickson 2004). Note that we are not suggesting that the creative potential of human resources can be accessed like a machine at the push of a button. Rather, firms with strong reallocation capabilities assure that the temporary underused capabilities are available when and where they could provide the greatest contribution for superior customer value propositions. We argue that firms' rapid but well-directed resource reallocation decisions provide the degrees of freedom for creative and proactive experimentation which may allow for more novel market approaches (Bourgeois 1981, Bromiley 1991). Above, we have hypothesized that the relationship between slack and the degree of novelty in market activity is positive when firms' employees reactively transfer their excess resources into market actions although they lack well-directed and rapid reallocation capabilities. Nevertheless, this underlying self-selecting mechanism is unlikely to result in proactively created novel market actions that satisfy latent market needs as it lacks some form of strategic resource coordination. The proactive use of slack can be assumed to have a more positive effect on the immediate accessibility

of these resources. Firms may be better able to access the value potential of their resources by quickly re-allocating them to new action fields. We argue that this requires firms to have active resource management and reallocation capabilities based on strong strategizing to provide an additional boost of flexibility. Our argument is in line with Cheng & Kesner (1997) who provided evidence that slack resources can actively be managed. We assume firms' top management to be able to transform their HR slack into proactive market activity by re-allocating it wisely. As a result, we expect the combination of market actions to show greater signs of flexibility, in other words, to contain an even greater element of novelty for the market participants than in the reactive view. We propose that the relationship between HR slack in customer value creating functions and the degree of novelty in the market activity is positive and significantly stronger for firms with greater resource reallocation capabilities because they can use slack in a proactive fashion. Based on this, we formulate the following hypothesis with the level of resource reallocation capabilities as a moderator:

Hyp. 4b: *The relationship between slack resources in customer value creating functions and the degree of novelty in the market activity is positively moderated by the level of the firms' reallocation capability: The greater the firms' resource reallocation capability, the more enhanced will be the relationship between human resource slack in customer value creating functions and the novelty element in the firms' market activity.*

Having established the direct link between HR slack and customer equity-based performance and a relationship between HR slack and novel market actions, we now hypothesize about the link between novel combinations of market maneuvers and the customer equity-based value of the firm's customer base. This final step is essential as it assigns a financial impact, i.e., customer equity-based firm value implications to both the resource allocation as well as the resource deployment decisions. In general, firms' have been argued to create competitive advantage based on a series of competitive market actions (D'Aveni 1994, Young et al. 1996 p. 243). They must design market actions that deliver superior value propositions to customers. There is empirical evidence that market actions positively influence performance. Firms with greater market activity were found to outperform the less active firms (Young et al. 1996). Capron & Hulland (1999) established a positive link between the deployment of marketing resources such as general marketing expertise and market share or profitability. Market-related capabilities have also been argued to accelerate and enhance the firm's cash flows (Srivastava et al. 1998 p. 2). Based on these findings, researchers have more recently presented customer lifetime- and customer equity-based measures to solve marketing decision problems and resource allocation issues in order to optimize the marketing return on investment and the value of the customer base. These customer-based measures have been used for marketing decision problems such as the selection of an appropriate customer acquisition program (Berger & Nasr 1998), decisions about the type and level of sales promotion and discount actions (Berger & Bechwati 2001, Blattberg & Deighton 1996, Lewis 2006) and pricing strategies

to improve customer retention and the winback of customers (Thomas et al. 2004). We use a customer equity-based value approach to capture the effectiveness of firms' novel market actions from a long-term perspective because the favorable short-term effects of marketing actions such as discounts may not necessarily pay off in terms of long-term value contributions (Jedidi et al. 1999, Mela et al. 1997, Yoo & Hanssens 2005). Customer equity and customer equity-based valuation approaches capture both the long-term top-line performance that results from well-thought out deployment actions and the bottom-line outcomes that arise from effective and efficient resource reallocation decisions. Market actions are seen as an indicator of the firms' ability to deploy their market-related capabilities. In deploying this expertise, some firms are more flexible than other in their choice and novel combination of their market-related capabilities. Drawing on their excess resources and reallocation capabilities, they are consequently able to create market actions that are beyond the commonly-used balanced action repertoire. These unexpected and novel market action combinations may surprise competitors and force them into responsive positions. Using more novel market action combinations, flexible firms may create the chance to get ahead of competitors by arousing the customers' attention. Rust et al. (2004a p. 77) argued that market actions have an impact upon customer-centered elements such as brand attitude, loyalty or customer satisfaction. Similarly, Berger et al. (2006 p. 159) stressed the importance of firms' actions in shaping the customers' mindsets. Gupta et al. (2006) and Gupta (2009) linked marketing actions to more favorable customer attitudes which, in turn, cause more desirable purchase behavior. Customer behaviors, for instance customer retention, new customer acquisition or up-selling have been said to affect profitability and finally increase the firm's value (Gupta et al. 2006 p. 140). In today's business reality, firms can only impress customers and arouse their attention by moving beyond the traditional balanced portfolio of market actions. They must develop a creative entrepreneurial mindset to touch upon the current or potential customers' value perceptions. In this business environment, strategic surprise is likely. If the firm does not pioneer the market with novel resource deployment combinations, its competitors will do so. Firms must therefore proactively or at least reactively make use of their slack resources by means of novelty management techniques to prevent competitors from taking the leading position. Earlier, we argued that market-focused flexibility abounds in rapidly assembled combinations of market actions and that these combinations have a strong potential for differentiation due to their higher degree of novelty. Therefore, we propose that these creative and novel sets of market actions have an impact on customer value measures such as customer satisfaction and overall the customer responsiveness (Slotegraaf et al. 2003) which, in turn, positively affect the key drivers of customer equity-based firm valuation approaches, i.e., customer acquisition, retention and cross-selling behavior (Bauer & Hammerschmidt 2005, Gupta 2009). In market-focused flexible firms, i.e., the ones that are able to make market-focused use of HR slack resources, these customer value enhancing market actions are created without incurring excessive costs, organizational disruptions or performance losses. As a result, we propose a value enhanc-

ing effect of these novel actions for the firm and the customers. Consistently, we hypothesize about a positive link between the degree of novelty in the market actions and the customer equity-based residual value of the customer base. Figure 7 provides an overview of the hypothesized paths of our structural model.

Hyp. 5: *The greater the novelty element in the firms' market activity, the higher firms' customer equity-based residual value.*

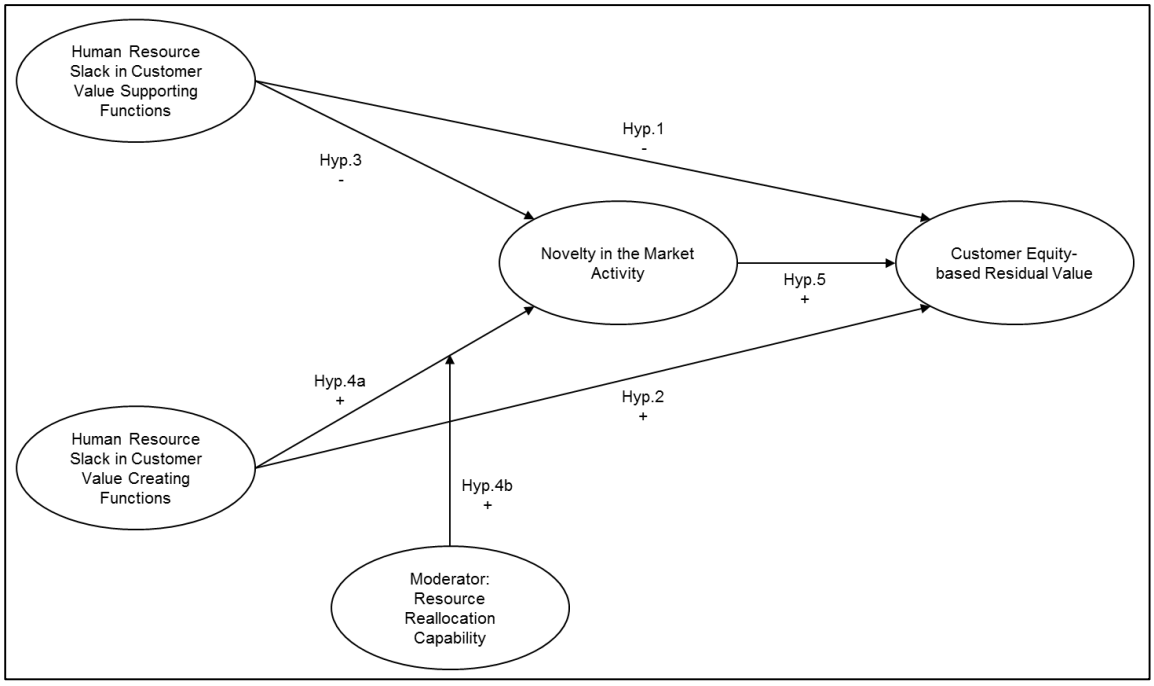

Figure 7: Structural model (study II)

5.8. Methodology & Research Design

5.8.1. Context and Sample: Industry Setting

With regard to our flexibility-based research, we selected the automotive industry as an industry that is characterized by high market pressures, competitive rivalry with high vulnerability to competitive and economic changes and sudden market deviation (Diez 2006 p. 20). Firms in this industry, whether in the saturated or in the emerging markets, need to be flexible. They need to deal with the demanding but highly price-conscious customers in stagnating markets or handle the challenges of meeting the unfolding customer needs in the rapidly growing markets. Despite the implementation of flexible production systems, sales volumes remain, to a large extent, determined by the manufacturers' production schedule and capacity. This has severe implications for the sales and marketing strategies as marketers must not only handle the challenges of the market but also additional production-induced challenges. In the dynamic markets of durable consumer goods, as a result, marketing and sales managers must use sales incentives and marketing tactics to push the excess volume into the market or calm and retain the highly demanding customers during times of capacity constraints and delivery delays. Automotive managers are therefore highly interested in flexible market-focused approaches to deliver products,

services and outstanding customer value propositions especially because competition is severe (Throll & Rennhak 2009 p. 76). We chose this extremely competitive industry setting with highly demanding customers because it provides a great basis for HR slack resource-based flexibility research. It is also an interesting research context because the high profitability pressures may breed generalized slack-as-inefficiency misinterpretations in this industry.

5.8.2. Data Collection

We focused on the functions of the automotive industry that are directed towards the market. We collected business unit level data from the industry's national marketing, sales and distribution firms (in the following named local sales units or firms). These firms are local entities that manage activities such as the market coverage, sales planning, sales promotion, exploitation of market potentials and the distribution of vehicles and spare parts. They engage in branding and brand building, ensure customer satisfaction and competitive positioning, customer care, service and support activities, training of the sales and after sales forces and provide technical support and advice to automotive dealers and customers (Dannenberg & Joas 2003 p. 507, Rosenbloom 2004 p. 42ff, Smend 2003 p. 120f). Given the differences in the country-specific customer needs and expectations, local sales units focus on market-linking activities such as brand management, segmentation and targeting, positioning and differentiation, market communication, system leadership and active market management (Kraus 2005 p. 95). As an intermediary between the market and the manufacturers, they assume a highly strategic and value-adding role by reconciling the local market needs with the central requirements of the automotive manufacturers (Kotler 1986). Our data collection rested on an advanced research approach to ensure relevant and valid conclusions. Firstly, we conducted an in-depth literature review of the relevant concepts and measurement approaches. We developed our model along the latest standards of variance-based structural equation modeling. In doing so, we ensured that the objective measurement approach for our constructs met the conceptual meaning and contents in the way they had previously been presented in literature. Secondly, we established a close research cooperation with multinational companies of the automotive industry. For several months, one of our researchers gathered intensive industry experience by working in a headquarters' department which was responsible for the governance of the local sales firms and had frequent contact with the local business units' management. This enabled us to have regular unstructured conversations with the experienced managers without creating an interview atmosphere that could have potentially biased their answers towards an industry desired response behavior. Our data collection approach allowed us to gain tacit knowledge based on informal but meaningful expert talks, frequent unstructured discussions and knowledge exchanges during industry expert meetings, conferences and workshops. We used these thick and meaningful findings to adapt our theoretically-based research model to the actual demands of the local industry realities. This allowed for a careful content specification and validity assurance.

Several feedback loops with the managers formed an important part of our model development and refinement procedure and helped us to conceive the constructs and measures, to see through them, and to advance to the very meaning of the research problem. This dual data collection technique ensured that we truly captured the intended constructs and provided for face and content validity on the indicator level (Henseler et al. 2009). Our data sample consisted of objective, concrete data that we collected from archival firm sources of the headquarters and the local sales units. We obtained full data sets for 56 local sales units of five different multinational automotive companies. The selected sales firms were small to medium in size with an average turnover of about 750m Euros and 110 employees. Our data reflected the base year 2011 and provided a lag-structure that covered a forecast period for the subsequent four financial years. Our high quality cross-national data set comprised local firms in 16 countries. We obtained 29 responses from Western European business units, 8 Eastern European data sets, 15 data files from Asia-Pacific and Asian divisions and 4 responses from North, Central and South American firms. This is a very satisfying response rate of above 70% (56 of 76 originally contacted sales units; Menon et al. 1999).

5.8.3. Measurements

We present an overview for all constructs, measures and data sources in Table 12 and Table 13.

Construct	Definition	Measures	Data Source
Human Resource Slack in Customer Value Creating Functions			
Human resource slack: customer care	Human resources in excess of the average demands for customer support, call center functions and roadside assistance.	Total number of employees in these specific functions, size adjusted by each business unit's total product sales in 2011 (in 1000) minus the mean value of the resulting relative numbers across all business units.	- standardized headcount reports provided by each business unit
Human resource slack: market management	Human resources in excess of the average demands for the executive management staff in customer-facing functions.	Total number of employees in these specific functions, size adjusted by each business unit's total product sales in 2011 (in 1000) minus the mean value of the resulting relative numbers across all business units.	
Human resource slack: marketing planning	Human resources in excess of the average demands for marketing and sales planning of automotive products and services including the preparation of business plans and sales budget plans.	Total number of employees in these specific functions, size adjusted by each business unit's total product sales in 2011 (in 1000) minus the mean value of the resulting relative numbers across all business units.	
Human resource slack: sales management & field forces	Human resources in excess of the average demands for the sales field force team and all sales related functions of the different value streams.	Total number of employees in these specific functions, size adjusted by each business unit's total product sales in 2011 (in 1000) minus the mean value of the resulting relative numbers across all business units.	
Human Resource Slack in Customer Value Supporting Functions			
Human resource slack: back office & accounting	Human resources in excess of the average demands for back office functions & accounting.	Total number of employees in these specific functions, size adjusted by each business unit's total product sales in 2011 (in 1000) minus the mean value of the resulting relative numbers across all business units.	- standardized headcount reports provided by each business unit
Human resource slack: financial controlling & business management	Human resources in excess of the average demands for financial business controlling and business management.	Total number of employees in these specific functions, size adjusted by each business unit's total product sales in 2011 (in 1000) minus the mean value of the resulting relative numbers across all business units.	
Human resource slack: technical services	Human resources in excess of the average demands for technical services and support such as product support, analysis center, technical field forces, technical workshop information or workshop support.	Total number of employees in these specific functions, size adjusted by each business unit's total product sales in 2011 (in 1000) minus the mean value of the resulting relative numbers across all business units.	
Human resource slack: warranty administration, auditing & parts checking	Human resources in excess of the average demands for warranty, parts checking, administration and auditing.	Total number of employees in these specific functions, size adjusted by each business unit's total product sales in 2011 (in 1000) minus the mean value of the resulting relative numbers across all business units.	

Table 12: Summary of the constructs, measures and data sources (1/2) (study II)

Construct	Definition	Measures	Data Source
Novelty in Firms' Market Activity	The degree of novelty in the externally directed, specific and observable newly created moves initiated by a firm to enhance its competitive position (Ferrier et al. 1999 p. 378).	Composite measure of market signaling, advertising & communication-related actions, sales related pricing and positioning actions, new product launch related actions and product modification actions. Calculated as the variance of the four competitive market actions for each business unit divided by the mean of these actions.	- central marketing and controlling departments of each manufacturer's headquarters
a) market signaling, advertising & communication-related actions		Number of campaigns as stated in the business unit's media plan for the specific financial year.	- central marketing and controlling departments of each headquarters
b) sales related pricing, promotion and positioning actions		Number of sales incentive related pricing and positioning campaigns approved by the headquarters finance department during the year.	- central marketing and controlling departments of each headquarters
c) new product launch actions		Number of new product launches by the business unit in the respective financial year.	- central marketing and controlling departments of each headquarters
d) product modification actions		Number of vehicle model modifications by the manufacturer that the business unit had to establish in the market. Calculated as the first difference in the number of vehicle identification numbers (i.e., the specification of the engine-transmission-equipment combination) in the focus year as compared to the prior year.	- central marketing and controlling departments of each headquarters
Customer Equity-based Residual Value of the Customer Base	The total of the discounted residual value streams summed over all customers of the firm during a prespecified period.	Slightly adjusted methodology based on Gupta (2009) and Bauer & Hammerschmidt (2005)	- headquarters - evaluation of the industry managers
Moderator Variable			
Resource reallocation capability		Absolute values of the first difference in the reported number of employees for each business function of the business units between 2011 and 2010, adjusted by the total number of employees for the business unit in 2011 to correct for size effects.	- standardized headcount reports provided by each business unit
Control Variables			
Size		Total number of employees in the business unit at the year end 2011 (for moderator and customer equity), total product sales volume (in 1000) for slack variables and mean of total market actions for market activity.	- standardized headcount reports provided by each business unit
Environmental uncertainty	Managers' cognitive response to their business operations in volatile and unpredictable (i.e., turbulent) environments.	Equally weighted composite measure of volatility and unpredictability.	
- volatility		Measure of Hull (1993) to capture the volatility in the 12 months total market vehicle sales per country.	- brand headquarters
- unpredictability		- time series approach - unpredictability measure of Berg & Lawless (1998), Dess & Beard (1984 p. 58), Keats & Hitt (1988) - 24 months total market vehicle sales: growth in the monthly volume in t compared to the respective month in the prior year (t-1).	- brand headquarters

Table 13: Summary of the constructs, measures and data sources (2/2) (study II)

Human Resource Slack

Based on Bourgeois' publication in 1981, most slack studies focused on excess financial resources (e.g., Bourgeois & Singh 1983, Bromiley 1991, George 2005, Hambrick & D'Aveni 1988, Tan & Peng 2003). Slack measures such as available financial resources or selling-and-overhead-costs-to-sales ratios have become well-accepted (e.g., Cheng & Kesner 1997, Greenley & Oketmgil 1998, Iyer & Miller 2008, Love & Nohria 2005, Singh 1986). Although increasingly used, non-financial slack measures are largely out-numbered by the easier to obtain financially-based slack data. Our study rests on HR slack measures to contribute to the non-financially based slack research. We observed absorbed, sometimes also called recoverable human resource slack, which refers to human resources in excess of firms' current resource needs that have been absorbed into the firm's structural design (Bourgeois & Singh 1983, Cheng & Kesner 1997, Singh 1986). We used a static measure to observe the deployment of HR slack (Marino & Lange 1983, Mishina et al. 2004).

Temporarily working directly with the experienced managers and industry experts, our innovative data collection approach enabled us to gain deep insights into the structures of the local sales firms. We reviewed the business unit structures, organizational charts and firm build-up guidelines and engaged in several expert talks. Based on this, we created a detailed standardized request file to obtain data about the units' employees. The addressed business units completed the table with actual year end 2011 headcount numbers per business function and sub-function. Based on the insights gained, we divided the business unit headcount data into customer value creating and customer value supporting functions. We followed Mishina et al. (2004 p. 1187) and measured HR slack as the number of employees per 1,000 product sales and deducted the industry average from the individual relative numbers. We stated our slack measure relative to the units' sales volumes to directly control for size effects as larger business units could have had greater absolute slack levels. Consistent with previous slack measures that have been presented in literature (Bourgeois & Singh 1983, Mellahi & Wilkinson 2010 p. 492, Mishina et al. 2004, Welbourne et al. 1999), we calculated the mean value for the number of employees per functional group and subtracted it from the individual functional headcount number in each business unit. This measure states absorbed HR slack relative to the industry target level (Bromiley 1991, George 2005, Love & Noria 2005, March & Shapira 1987, Miller & Leiblein 1996, Mishina et al. 2004). We assumed that the mean of each sub-function acted as an ideal resource level of employees in this specific business sub-function. Positive values indicated human resources in excess of the ideal number while negative slack values denoted understaffing for this function and thus an overstretching of the given resources (Mishina et al. 2004 p. 1187). In line with marketing literature, our talks with the experienced managers indicated that human resources in customer care functions, market management, sales management, field force positions and marketing planning functions were deployed to enhance the value perceptions of the customers and therefore reflected customer value creating functions. Customer care consisted of slack resources in customer support, call center functions and roadside assistance. Market management slack contained the executive management staff in customer-facing functions. Marketing planning positions included marketing and sales planning for automotive products (vehicles, parts, accessories) and services (workshop services). It also contained planning tasks for business plans and sales budgets. Sales management and field forces comprised slack resource levels of the sales field force team and all sales related functions of the different value streams (new and used cars, parts, accessories). With regard to slack in customer value supporting functions, our expert talks and reviews of the relevant company manuals suggested the use of a latent slack variable that reflected functions such as financial accounting and business management, technical services and support (e.g. product support, analysis center, technical field forces, technical workshop information, workshop support), warranty administration auditing and parts checking and back office accounting. Both latent slack variables were reflective in nature where the causality ran from the construct to the indicators.

Resource Reallocation Capability

We captured the firms' resource reallocation capability by calculating the absolute first differences between the actual number of employees in 2011 and the prior year 2010 for each of the 66 business unit sub-functions that we used in our standardized request file. In order to adjust for potential bias effects due to different firm sizes, we expressed each of these absolute differences relative to the total number of employees in the respective business unit. We were aware that some of these changes related to planned staff engagements and releases. Nevertheless, further test calculations revealed that the total employment size of the local units changed by less than 10% on average from 2010 to 2011. This low fluctuation supported our first difference approach since the vast majority of changes seemed to be driven by internal re-staffing rather than staff increases or reductions. We were confident that our measure was a good proxy for the firms' ability to re-allocate their employees in a timely manner. The first differences based on a 1-year horizon appeared appropriate as human resources are absorbed by the system. Their reallocation requires more time than unabsorbed resources such as financial slack for instance.

Novelty in the Market Activity

Having reviewed the relevant literature, we identified sales related pricing and positioning actions, new product launch actions, product modification actions and market signaling, advertising & communication-related market actions as the critical marketing elements that are frequently deployed by firms (Chen & Miller 1994, Ferrier et al. 1999 p. 378, Nadkarni & Narayanan 2007 p. 257, Oktemgil & Greenly 1997 p. 465). We focused on marketing actions that reflected firms' short- to medium-term organizational decisions (Miller & Chen 1996 p. 420). We thus excluded distribution and channel management-related actions because of their long-term planning horizon. We considered distribution decisions as inappropriate for flexibility research which observed the implications of short-term business decisions. We requested the expert industry managers in the headquarters to verify the fit of our initial set of marketing actions with their industry reality by providing them with the appropriate definitions and comprehensive explanations of each action type. We created a manual based on their suggestions for modification, examples of specific competitive actions and the standard procedure of counting and calculating the number of actions. We subsequently sent this manual of actions, definitions and examples to the central marketing and controlling departments of each manufacturer's headquarters with the request to count the number of their formal campaign approvals for each action type and each business unit. This procedure constituted a refinement of the frequently used structured content analysis of media citations applied in dynamic competition studies to capture the number of competitive actions undertaken by a firm (e.g., Chen et al. 1992, Young et al. 1996). The resulting table provided us with the number of marketing actions deployed for each of the four competitive action types during the financial year 2011. In the rare cases where not all market data was accessible, the controlling departments estimated the numbers based on their knowledge about the respective country's average expenses per campaign and the total monetary expenses spent on this

specific type of action. Table 13 shows the data sources. To translate these numbers into a meaningful latent variable, our measurement of the novelty in firms' competitive market actions followed Nadkarni & Narayanan (2007). We created a measure of the firms' market action repertoire because firms must not only choose the number of actions to be taken but must also individually combine and weight the four different market action types (Ferrier et al. 1999, Nadkarni & Narayanan 2007). We assessed the degree of novelty in the market actions based on a coefficient of variation approach, i.e., a measure of the variability in the deployment of market actions. We calculated the variance of the four competitive market actions for each business unit and divided it by the mean of these actions to assess firms' relative magnitude of the variety of market actions in relation to the mean value. Low values indicated a balanced choice of actions. While this implied a greater range of distinct actions, it also came along with a greater predictability of firms' choice of market actions as this constituted the generally expected pattern of market activity. Higher values, in contrast, suggested a greater dominance of specific actions and thus a more extreme choice of market actions with a greater degree of novelty and unpredictability for the market participants. We argue that flexible firms must be able to leave the beaten track of market responses in favor of more extreme and novel combinations of market actions. We therefore interpreted greater values as a signal for novelty and thus greater resource deployment flexibility.

Customer Equity-based Residual Value of the Customer Base

To capture the degree to which the market needs have effectively and efficiently been met, we drew on a customer equity-based approach to measure the long-term residual value of the managers' decisions and firms' actions. Gupta (2009) argued that the ability to calculate the lifetime value of an individual customer also allows for the valuation of the entire customer base. Several approaches to calculate the present and future value of a firm's customer base exist (e.g., Bauer & Hammerschmidt 2005, Berger et al. 2006, Gupta et al. 2006). We have been inspired by the customer-based firm valuation methods presented by Gupta (2009) and Bauer & Hammerschmidt (2005). Bauer & Hammerschmidt (2005) calculated the lifetime value of the current customer base as the sum of the lifetime values of all customers acquired in this period and the overall CE as the 'sum of the values of all T cohorts discounted on t = 0' (p. 340). Based on their calculus, we put the customer as the source of value creation into perspective and developed a slightly adjusted methodology to forecast the customer equity-based residual value of the local sales units' customer base which resulted from their ability to create a variety of marketing actions in t_0. We used the customer equity-based residual value of the firm's customer base as a performance measure and defined it as the total of the discounted residual value streams summed over all customers of the firm during a prespecified period.

For this, we took actual year-end profit and loss account (P&L) data from 2011, the firms' budget P&L planning numbers for 2012 and forecasted revenues for each revenue stream

drawing on the firms' strategic sales volume plans for the future assuming an unchanged product mix, i.e., a linear relationship between the volume development and the revenues. The reliance on the firms' strategic plans enabled us to include the competitive situation and the future dynamics in the model as recently called for by Gupta et al. (2006 p. 142). Individual customer-level data, a sine qua none for individual CLV-based resource allocation decisions, is generally widely unavailable or highly approximate in nature in non-contractual industry settings. Some purposes such as more global valuations, however, justify the use of slightly more aggregated data (Bauer & Hammerschmidt 2005 p. 334, Mulhern 1999 p. 27). As individual customer-level data was unavailable, we gave preference to average but fine-grained and undistorted customer data for our valuation in order to calculate the net value contribution for each revenue stream. The vehicle, parts and accessory business of the local sales units were taken as a basis because they constituted the industry's main value generating product and service streams. We chose the latter two streams to incorporate the cross-selling value as frequently called for by researchers (Kamakura et al. 1991). We selected 2015 as the termination year for our approximation as we considered the future projection of cash flows from customers beyond five years or even infinite projections as too vague for this highly turbulent industry (see also Bauer & Hammerschmidt 2005 p. 342, Berger & Nasr 1998). Moreover, additional management efforts other than the one observed in 2011 would be required to refresh the marketing effects of t_0. This is in accordance with Dwyer (1997) who stressed the dominance of the first four to five business years because latter net cash flows would be too heavily discounted to have a relevant impact. We applied historical 3-year average direct- and indirect cost-to-net-turnover ratios and the firms' budget plans for 2012 to extrapolate future P&L cost structures for each business unit (Dwyer 1997, Gupta et al. 2001). We used the generally-accepted international accounting standards for the margin calculus and arrived at the average annual gross and net contribution margins per customer for each value generating stream of each individual business unit. Our procedure also enabled us to separately access the direct costs (landed price, sales tacticals and incentives), indirect marketing costs (e.g., media advertising, market research, customer relationship management) and other sales-related fixed costs (e.g., accounting, IT). Researchers (e.g., Berger & Nasr 1998, Gupta et al. 2001) have frequently questioned the breakdown of marketing expenses into acquisition and retention costs in CE models as classical brand marketing, for instance, could influence both, the repurchase intention of given customers and the attraction of potential customers. Given the high competitive pressure in the automotive industry, we learnt that not only do new customers request high discounts and free extra features but that previous customers also request discounts in return for their loyalty. We consequently assumed the costs of customer acquisition and retention to be approximately equal between actual and prospective customers and stated them as a per-customer-ratio following Dwyer (1989). We adjusted the operative result for the effects of depreciation, capital expenditure and changes in net working capital and thus obtained the average free cash flows from the operative business per customer that resulted from the units' relationships with their customers. We intentionally excluded cash flows from non-operative

business to extract the pure value of the active customer base that resulted from the business units' efforts to manage its customer base. We fixed the production- and procurement-related variables of the country-specific proportion per customer that the manufacturer collected and summed them with the units' contribution per customer to neutralize for potential value distortions due to earnings optimizing techniques. In summary, we obtained the average cash flow-based net contribution per customer for each value generating stream of each local unit (see Table 14 for the margin calculation scheme).

		2011 Actual 2012 Budget 2013-2015 Projection		
		Vehicle Business	**Parts Business**	**Accessories Business**
	Revenues per customer			
./.	Direct costs per customer - landed price - other direct costs			
=	**Gross contribution margin per customer**			
./.	Marketing costs for acquisition & retention per customer - general marketing expenses (media advertising, market research, CRM, etc.) - sales tacticals & sales incentives			
./.	Other fixed costs per customer (accounting, IT, etc.)			
+/./.	Other adjustments			
=	**Net contribution margin per customer**			
x	**Active customer base in the respective year** (see equation 8 and 9 for the calculus)			
=	**Revenue stream-specific net contribution margin**			
	Total net contribution margin			
+	Depreciation			
./.	Capital expenditure			
+/./.	Changes in working capital			
+/./.	Changes in other balance sheet assets			
=	**Operative free cash flow**			

Table 14: Margin and operative cash flow calculation (study II)

Yet, not all customers could be assumed to remain fully active during the consideration period and some continued being active shoppers but may have not all been loyal to their original brand. In contrast to the general net present value method to determine a firm's equity value which neglects the purchase behavior of the given customer base, our calculation included business unit-specific loyalty and referral rates in order to predict the active customer base for each year. We focused on the acquisition of customers in our basis year (2011 = t_0) and intentionally excluded the acquisition of further customers in the subsequent years. This is because these additional customers may have been a result of the market actions and thus the management efforts of the following years rather than a consequence of the efforts in t_0 but we were interested in the pure customer equity-based residual value that resulted from the efforts in 2011 which died down until 2015. For us, this included the referral value, in other words, the additional customers that had been acquired via word-of-mouth recommendations of other customers acquired in t_0 (Anderson 1998, Bauer & Hammerschmidt 2005 p. 334). We obtained individual perceptive evaluations from the country managers of the headquarters for customer retention and referral intention rates of the specific value streams. Although perceptual in nature, the

acquired information was considered reliable and valid as it was based on the managers' industry experience and their constant direct contact with the local sales firms. Consistent with the CLV-model for non-contractual settings by Venkatesan & Kumar (2004 p. 108), we used historical market data and carried that into the future assuming the absence of events that would dramatically reverse the historic trend for predicting the future customer activity (Reinartz & Kumar 2000). Although non-contractual in nature, automotive durable consumer goods conform to the model scenario of Rust et al. (2004b) where customers that terminate the relationship are recorded as 'lost-for-good' because vehicle purchases are largely brand-committed and trust-based decisions. Yet, there is always a chance to win back these lost customers so we treated returning customers as newly acquired customers which implied a constant retention rate (Bauer & Hammerschmidt 2005 p. 337, Dréze & Bonfrer 2005, Thomas et al. 2004, Venkatesan & Kumar 2004 p. 108). For the vehicle value stream, we used the amount of vehicles actually sold by the business unit during 2011 to determine the initial active customer base. For the parts and accessories value streams the sum of vehicle sales volumes during the previous six years were taken as the initial active customer base because these customers were likely to visit the workshop. We chose six years as a reference period because expert talks with several sales managers indicated that customers tend to migrate to non-branded discount workshops with increasing vehicle age. We also included the individual purchase frequencies into our model by adjusting the active customer base by the frequency rates of repurchasing events. We obtained the perceptions of the average duration of vehicle ownership per country and year from specialist departments of the headquarters. Moreover, expert managers evaluated the average frequency of workshop and accessories shop visits by customers for their specific country of responsibility. Customer retention is an important aspect of value-based models because the repurchase behavior of loyal customers ensures continued future revenue streams (Oliver 1999). Customer loyalty is defined as 'a deeply held commitment to rebuy or patronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influence…' (Oliver 1999 p. 34). Researchers (e.g., Bowen & Chen 2001, Reichelheld & Sasser 1990) provided empirical evidence of a positive relationship between loyalty and profitability. Customer retention has been argued to be an important driver of CLV (Reichheld & Sasser 1990, Reichheld & Teal 1996). We included the customers' repurchase behavior as one variable besides the amount and the frequency of customer purchases. Based on the market experience of the managers, we obtained and incorporated their perceptual evaluation of customers' loyalty rates which reflected observations of actual purchase behavior in the past rather than only intentions to repurchase which have been argued to be a rather weak proxy. We refrained from using customer satisfaction values due to strong concerns of method bias (Gupta et al. 2006 p. 142). With respect to the loyal customers, we assumed that their average duration of ownership, i.e., their repurchase frequency was evenly spread across the period until 2015. Our model thus assumed that the initially acquired customer base of t_0 (2011) declined annually by the disloyal customers and increased by customers that have been motivated by word of

mouth advertising of the t_0 customers. In addition to this, adjusting the active customer base by recommended purchases, we included the referral value indirectly. Bearing in mind that a recommendation intention may not automatically convert into actual behavior and that only a small share of the recommended people actually become new customers, we assumed that 10% of the recommendation intentions transform into purchases based on literature findings and the consultation with the experienced automotive managers. Our model thus included the key parameters that affected the level and volatility of operative cash flows (Bauer & Hammerschmidt 2005). We applied a static approach (Bauer & Hammerschmidt 2005) considering only the initially acquired and actively managed customer base with its migration streams. Thereby, we purified the management effects in t_0 from the effects that were related to other periods. We calculated the active customer base as follows:

$$\boldsymbol{AC_{t\,car_0} = V_{t\ car_0}} \tag{8}$$

$$\boldsymbol{AC_{t\,car_n} = AC_{t\,car_{n-1}} L_{t\,car_0} F_{t\,car_0} + AC_{t\,car_{n-1}}\, 0.1 * R_{t\,car_0}} \tag{9}$$

Where $AC_{t\ car_0}$ was the size of the active customer base in the vehicle value stream in $t = 0$; $V_{t\ car_0}$ was the vehicle sales volume of the business unit in t_0; t_n denoted the specific year where n ranged from 1 (i.e., 2012) to 4 (i.e., 2015); $L_{t\ car_0}$ was the historic rate of loyal customers measured as a percentage and denoted the probability of a customer to engage in repeated purchases; $F_{t\ car_0}$ was the historic frequency of repurchasing new vehicles stated in years and $R_{t\ car_0}$ was the rate of recommendation intention.

As a final step, we linked the size of the active customer base to the contribution margins per customer in the different value streams in order to calculate the present value of the customer equity in t_0 that was created by the business units' management efforts in 2011. We applied the following formula:

$$\boldsymbol{EV_{t_0} = \sum_{t=0}^{T} \frac{M_{t_{car}} AC_{t_{car}}}{(1+i)^t} + \sum_{t=0}^{T} \frac{M_{t_{parts}} AC_{t_{parts}}}{(1+i)^t} + \sum_{t=0}^{T} \frac{M_{t_{accessory}} AC_{t_{accessory}}}{(1+i)^t}} \tag{10}$$

Where EV_{t_0} was the customer equity-based residual value of the customer base created in t_0; t was the time index throughout the valuation period; T was the length of the valuation period, i.e., five years; $M_{t_{car}}$ was the actual (t_0), budgeted (t_1) or predicted (t_2 to t_4) average contribution margin per customer for the vehicle value stream in period t (respectively for the parts and accessories value streams); $AC_{t_{car}}$ denoted the size of the active customer base in the vehicle value stream in t (respectively for the parts and accessories value streams) and i was the cost of capital (discount rate) set at 9%. We discounted the resulting values back to t_0 using a uniform discount rate so as to abstract away from heterogeneous market risk premiums and weighted average cost of capital issues that would have been beyond the influence of local marketers. We were confident

that this discount rate captured the model inherent cash flow uncertainty due to the fact that we extrapolated future cash flows based on the historical customer behavior, competition and the economic environment. In contrast to frequent calls for high discount rates to fully capture uncertainty, we wanted to avoid double counting because parts of the uncertainty had already been incorporated into the cash flows by adjusting the customer base by the market-specific loyalty and referral rates. We selected this procedure to maintain the pure customer equity-based residual value of the customer base without effects that were beyond the sphere of the local managers' influence. The resulting model is much more fine-grained than the standard models that only included revenues, costs and retention rates as the basic components to calculate CLV and CE (Reinartz & Kumar 2000). Given the different sizes of the business units, we stated the resulting customer equity-based residual value of the customer base in relative terms as a per employee ratio to control for size effects. We also created an alternative variable to state the residual value of the customer base as a return on sales rate using the discounted sums of the 5-year projected total net turnover of the customer base.

Control Variables

We built a size adjustment into both the slack variables and the endogenous variables. Firm size has been found to be a crucial antecedent of slack (Verdú-Jover et al. 2006). Moreover, firm size may have had an impact on the resource endowment and this could have potentially biased our endogenous variables. We corrected all model variables for size effects. Beyond this, Sharfman et al. (1988) identified environmental variables such as uncertainties about the rate and magnitude of change as factors that could influence the accumulation of slack resources. Other researchers found links between environmental context factors and strategic behavior and performance (e.g., Baum & Wally 2003, Bourgeois 1980). Our data set comprised multinational firms that operated in different environmental contexts. Hence, we controlled for environmental uncertainty as some environmental developments may have forced slack accumulation in order to buffer against adverse effects or may have otherwise affected the choice of market actions or performance outcomes. The environmental uncertainty variable was made up of two distinct states of the environment: its demand volatility and its demand predictability. Our measure of unpredictability was based on a time series regressional approach following Bergh & Lawless (1998), Dess & Beard (1984 p. 58) and Keats & Hitt (1988). We used time as the independent variable and the monthly growth rates of the vehicle market demand as the dependent. Our unpredictability measure was the dispersion from the regression line (standard error of the β_1 time coefficient). The volatility indicator was based on Hull (1993) and was measured as the variability (standard deviation) of the relative changes of the monthly total market demand during the financial year (see also Dreyer & Grønhaug 2004). Environmental uncertainty was the sum of unpredictability and volatility with both variables equally weighted.

5.8.4. Descriptive Statistics

We report the descriptive statistics of the collected business unit data in Table 15. The considered sales firms were small to medium sized entities with an average turnover of 750m euros and 110 employees. Among the analyzed business functions, the firms allocated, on average, a considerably greater share of their human resources to the customer value creating business areas. Sales and field forces constituted the most pronounced functions (see Table 15). A matrix with the bivariate correlations among the model variables is shown in Table 16. In accordance with our expectations, there were positive significant correlations between all HR slack in customer value creating functions and market actions and also with the customer equity-based residual value of the firm's customer base except for the correlation between HR slack in customer care functions and market actions which was insignificant. We found significant and negative correlations between slack in customer value supporting functions and the endogenous variables. There were significant and positive correlations between value creating functions and the firms' resource reallocation capability while this was not the case for slack in value supporting functions. We did not find correlations between firms' reallocation capabilities and market actions or customer equity-based residual value. This correlation pattern provided support for our hypothesis that human resource reallocation capabilities, by themselves, were not value-adding unless firms combined them with the matching slack resources, i.e., an appropriate resource endowment.

Variables	mean	sd
Human Resources: Customer Care	.092	.116
Human Resources: Market Management	.743	2.496
Human Resources: Marketing Planning	.760	2.705
Human Resources: Sales Management & Field Forces	1.635	4.505
Human Resources: Back Office Accounting	.190	.204
Human Resources: Financial Controlling & Business Management	.136	.145
Human Resources: Technical Services	.221	.238
Human Resources: Warranty Administration, Auditing & Parts Checking	.109	.108
Total Market Actions	128.3	9.0
Customer Equity-based Residual Value	2.4	2.4
Environmental Uncertainty	1.3	1.1
Resource Reallocation Capability	46.4	43.3
The human resource numbers are based on raw employee per product sales (size adjusted) data before mean adjustment to calculate HR slack. Market action numbers represent the total number of all 4 action types.		

Table 15: Descriptive statistics of the data for the business units (study II)

5.9. Method and Results

5.9.1. Model Estimation based on the Partial Least Squares Method

Consistent with the idea of variance-based structural equation modeling, we used the partial least squares procedure (PLS, Wold 1982) as implemented in SmartPLS 2.0 M3 (Ringle et al. 2005). We chose PLS for several reasons. Most importantly, our relatively small sample size with an n of 56 disqualified us from using covariance-based structural equation modeling due to concerns of non-converging maximum likelihood estimations during the iteration process and improper modeling solutions with negative sign variance

estimates (Boomsma & Hoogland 2001, Henseler et al. 2009 p. 291). We ensured that the minimum sample size requirements suggested by Barclay et al. (1995) were met.

		1	2	3	4	5	6	7	8	9	10	11	12
1	HR Slack: Customer Care	1											
2	HR Slack: Market Management	.576 (***)	1										
3	HR Slack: Marketing Planning	.505 (***)	.977 (***)	1									
4	HR Slack: Sales Mgt. & Field Forces	.631 (***)	.981 (***)	.928 (***)	1								
5	HR Slack: Back Office Accounting	.062	-.099	-.143	-.108	1							
6	HR Slack: Financial Controlling & Business Mgt.	.235	-.073	-.125	-.084	.577 (***)	1						
7	HR Slack: Technical Services	.101	-.117	-.153	-.094	.555 (***)	.629 (***)	1					
8	HR Slack: Warranty Administration, Auditing & Parts Checking	.079	-.132	-.168	-.109	.538 (***)	.465 (***)	.812 (***)	1				
9	Novelty in the Market Activity	-.053	.228 (*)	.272 (**)	.228 (*)	-.426 (***)	-.414 (***)	-.348 (***)	-.281 (**)	1			
10	Customer Equity-based Residual Value	.423 (***)	.584 (***)	.521 (***)	.631 (***)	-.168	-.247 (*)	-.238 (*)	-.259 (*)	.104	1		
11	Environmental Uncertainty	.417 (***)	-.036	-.028	-.040	.136	.314 (**)	-.029	-.040	-.147	.088	1	
12	Resource Reallocation Capability	.085	.476 (***)	.585 (***)	.357 (***)	-.099	-.095	-.111	-.108	.027	-.062	-.261 (*)	1

* = correlation is significant at a 10% level (2-tailed); ** = correlation is significant at a 5% level (2-tailed); *** = correlation is significant at a 1% level (2-tailed).

Table 16: Bivariate correlations among the model variables (study II)

We used a rather small but high quality set of objective data which we obtained directly from the firms' archives. This high quality and the strong theoretic basis of the hypotheses strengthened our belief that the indicator weights derived from the original sample which were re-used for bootstrapping were valid in a predictive way (Henseler & Chin 2010 p. 83). Literature has provided evidence that PLS is robust and able to deliver accurate results for models with small-sample sizes. Nevertheless, we were well aware of potential statistical model constraints because models with a small sample size often need strong effect sizes and high reliability to detect significant relationships and thus support the hypotheses (Chin & Newsted 1999, Henseler et al. 2009, Jöreskog & Wold 1982, Wold 1989). The PLS algorithm has also been selected because it is robust against data non-normality and accounts for the explorative nature of the emerging stream of empirically-based marketing flexibility research (Henseler et al. 2009). Similar to the covariance-based structural equation modeling, PLS is able to estimate both the measurement as well as the structural model within the overall fitted model environment (Chin 1998). It thereby allows for the evaluation of the goodness of the measurement model and the structural assessment of all path coefficients of the fitted model (Birkinshaw et al. 1995). The selected model comprised formative and reflective constructs. PLS generally deals

with this combination without identification problems (Diamantopoulos & Winklhofer 2001, Henseler et al. 2009 p. 282, Nijssen & Douglas 2008, Pinto et al. 2008 p. 160).

5.9.2. Evaluation of the Measurement Model

We used reflective measurement models for slack in customer value creating and customer value supporting functions and formative, single-item measures based on objective data to measure the market activity, firms' resource reallocation capability, customer equity and the control variables. We followed the measurement methods of well recognized journal publications to measure the components of the CE calculus which were based on perceptive measures. Formative indicators can be assumed to be error-free so that 'reliability becomes an irrelevant criterion for assessing the measurement quality' (Diamantopoulos 2006 p. 11, Edwards & Bagozzi 2000). Henseler et al. (2009 p. 301) therefore stressed the importance of assessing the validity of formative constructs. We accounted for the validity of both, the reflective and formative constructs on the basis of a theoretically sound rationale and expert judgments which is consistent with Rossiter's approach (2002). We ensured that the measures on the construct as well as on the indicator level captured what they were intended to measure (face validity) and that they represented all relevant aspects of the concept (content validity). For the reflective measurement scales, the individual items assigned to the construct were assumed to be an imperfect, error-afflicted reflection of the latent variable (Henseler et al. 2009 p. 289). We used confirmatory factor analysis to assess the validity and reliability by examining Cronbach's alpha, composite reliabilities (CR), the average variance extracted scores (AVE) and the items' factor loadings (Henseler et al. 2009 p. 298, Table 17). For our slack measurement scales, the internal consistency reliability testing procedure provided Cronbach's alpha values (Cronbach 1951) of 0.9292 for the slack in customer value creating functions construct and 0.8550 for the customer value supporters construct. We also calculated the composite reliability (Werts et al. 1974) because Cronbach's alpha assumes tau-equivalence, i.e., that all indicators are equally reliable (Henseler et al. 2009 p. 298). The composite reliability (ρ_c), in contrast, ranks the indicators according to their different factor loadings (i.e., their degree of reliability) (Henseler et al. 2009 p. 299). For the customer value creators and customer value supporters constructs, the ρc was 0.9523 and 0.9004, respectively. This was well above the critical value of 0.8 (Chin 1998 p. 320, Krafft et al. 2005 p. 74, Nunnally & Bernstein 1994). We tested the significance of the indicator loadings and path coefficients by means of a non-parametric bootstrapping technique (Chin 1998, Davison & Hinkley 2003, Tenenhaus et al. 2005). We used individual sign changes which ensured a sign congruence between the original sample estimates and the bootstrapping sample means (Ringle & Spreen 2007, Tenenhaus et al. 2005 p. 177). Each item's factor loading on the latent variable indicated the strength of the interrelation between the factor (construct) and the assigned manifest indicator variable (Krafft et al. 2005 p. 73). With regard to indicator reliability, we ensured statistically significant factor loadings for each of the slack measurement scale items (see Table 18). We also ensured that the standardized factor loadings exceeded 0.7 so that we could be confident that a substantial part of the each

manifest variable's variance (i.e., squared 0.5) was explained by the latent variable rather than by measurement errors (Henseler et al. 2009 p. 299, Krafft et al. 2005 p. 73). Table 18 shows that all factor loadings were significant at a 1%-level and exceeded the critical value of 0.7. We accounted for the convergent validity of the reflective measurements using the average variance extracted (AVE; Fornell & Larcker 1981). With AVE values of 0.8354 (customer value creators) and 0.6935 (customer value supporters) both reflective measures were above the threshold AVE value of 0.5 (Götz et al. 2009). This indicated that each of the two latent variables, on average, explained the majority of the items' variance as compared to the items' measurement errors. With respect to discriminant validity on the construct level, we ensured that the HR slack in customer value creating functions construct differed conceptually from HR slack in customer value supporting functions, i.e., that both concepts were unidimensional for themselves but not jointly (Henseler et al. 2009 p. 299). We assessed discriminant validity by applying the Fornell-Larcker criterion (Fornell & Larcker 1981). Accordingly, a specific latent variable must share more variance with the indicators assigned to it than with any other latent model variable (Chin 1998, Henseler et al. 2009 p. 300). We adjusted the standard correlation matrix using the squared values for the correlations below the diagonal and replaced the diagonal with the AVE values (see Table 19). For each variable, we assured that the AVEs of the latent variables were greater than the squared correlation values on the horizontal and vertical matrix lines. Beyond this, we also tested discriminant validity on the indicator level by comparing the loadings of each indicator with its cross-loadings to indicators of other constructs (see Table 20). For the slack constructs, all indicator loadings on the assigned constructs, by far, exceeded the cross-loadings so that concerns of discriminant validity violations were not an issue (Chin 1998, Götz et al. 2009).

	AVE	Composite Reliability	Cronbachs Alpha	Commu-nality	Redun-dancy	R Square
Main Effects Model						
HR-Slack: Customer Value Creators	.8354	.9523	.9292	.8354	.0027	.0026
HR-Slack: Customer Value Supporters	.6935	.9004	.8550	.6935	.0084	.0204
Novelty in the Market Activity	—	—	—	1.0000	.0190	.2394
Customer Equity-based Residual Value	—	—	—	1.0000	.0077	.4264
Moderated Model						
HR-Slack: Customer Value Creators	.8354	.9523	.9292	.8354	.0027	.0026
HR-Slack: Customer Value Supporters	.6935	.9004	.8550	.6935	.0084	.0204
HR-Slack: Customer Value Creators * Moderator: Reallo. Capability	.7287	.8794	.6998	.7287	.0000	.0000
Novelty in the Market Activity	—	—	—	—	.0215	.3393
Customer Equity-based Res. Value	—	—	—	—	.0077	.4264

Table 17: Overview of the inner and outer model (study II)

	Factor Loadings PLS Model Sample	Factor Loadings Bootstrap Sample Mean	Standard Error	T-Statistics
HR Slack in Customer Value Creating Functions				
HR Slack: Customer Care	.704 (***)	.759	.139	5.076
HR Slack: Market Management	.985 (***)	.888	.186	5.304
HR Slack: Marketing Planning	.954 (***)	.873	.182	5.244
HR Slack: Sales Management & Field Forces	.983 (***)	.868	.217	4.520
HR Slack in Customer Value Supporting Functions				
HR Slack: Back Office Accounting	.813 (***)	.825	.076	10.723
HR Slack: Financial Controlling & Business Mgt.	.838 (***)	.848	.064	13.135
HR Slack: Technical Services	.875 (***)	.861	.082	10.655
HR Slack: Warranty Administration, Auditing & Parts Checking	.803 (***)	.773	.136	5.886

*= significant at 10%; **= significant at 5%; ***= significant at 1%; one-tailed test, non-parametric bootstrapping procedure with 1,000 samples, 999 degrees of freedom.

Table 18: Factor loadings of the outer model & significance levels obtained from bootstrapping procedure (study II)

		1	2	3	4	5	6	7
1	HR Slack: Customer Value Creators	**.835**						
2	HR Slack: Customer Value Supporters	.008	**.694**					
3	Novelty in the Market Activity	.041	.204	**1**				
4	Customer Equity-based Residual Value	.356	.074	.011	**1**			
5	Moderator: Resource Reallo. Capability	.184	.015	.001	.004	**1**		
6	HR Slack Customer Value Creators * Moderator	.567	.048	.092	.091	.516	**.729**	
7	Control: Environmental Uncertainty	.003	.143	.022	.008	.068	.007	**1**

* = correlation is significant at a 10% level (2-tailed); ** = correlation is significant at a 5% level (2-tailed); *** = correlation is significant at a 1% level (2-tailed). Bold values on the diagonal show the constructs' AVE, values below the diagonal represent the squared bivariate correlations of the latent variables (test of Fornell-Larcker criterion).

Table 19: Discriminant validity analysis on the construct level (study II)

Having assured construct and indicator validity, we were aware that our findings could have been sensitive to alternative definitions of the constructs' measurement. While we conceptualized the exogenous model variables for HR slack in a reflective manner, researchers could argue for the formative nature of slack in customer value creating or supporting functions (Diamantopoulos & Winklhofer 2001). This could be based on the argument that the underlying business functions could constitute different aspects and that these components could therefore cause the two constructs. We tested our measurement model for these potential construct respecification effects to assure its robustness. Our alternative formative measurement model for slack in customer value creating functions comprised slack in customer care functions, slack in product marketing & management including brand, product and corporate communication functions and slack in sales management functions. Slack in customer value supporting functions consisted of slack in distribution and system-related functions, slack in training and service quality-related functions and slack in all other back office functions (accounting, legal, etc.). Multicollinearity issues were ruled out in this alternative model. We ran the main effects and the moderated models using these formative slack concepts but leaving the other indicators unchanged. We did not obtain significant changes in the model paths except for the path from customer value creators to novelty in the market activity which was significantly

lower but remained positive. These findings ruled out an incorrect assessment of the variable relationships due to model misspecification errors (Jarvis et al. 2003). For the further discussion of the results, we focused on the per employee size adjusted CE measure since we obtained similar results for our alternative CE measures (CE as a return on sales ratio). Based on this evaluation of the strength of our measurement model, we were confident that our measures were valid and reliable to derive meaningful relationships between the latent constructs from the models. We evaluated the structural model in the next step.

	HR-Slack: Customer Value Creators	**HR-Slack: Customer Value Supporters**	**Moderator: Re-allocation Capability**	**HR-Slack: Customer Value Creators * Moderator**	**Market Activity**	**Customer Equity**	**Control: Environmental Uncertainty**
HR Slack: Customer Care	**.7043**	.1532	.0848	.2387	-.0535	.4229	.4171
HR Slack: Market Mgt.	**.9850**	-.1217	.4761	.8070	.2282	.5837	-.0358
HR Slack: Marketing Planning	**.9537**	-.1738	.5849	.9046	.2720	.5211	-.0284
HR Slack: Sales Mgt. & Field Forces	**.9828**	-.1174	.3565	.6974	.2277	.6305	-.0404
Moderator: Resource Reallocation Capability	.4294	-.1226	1.000	.7177	.0265	-.0622	-.2614
HR Slack: Customer Care * Moderator	.4244	.0121	-.3533	-.1345	.0744	.5130	-.1069
HR Slack: Market Mgt. * Moderator	.6718	-.2157	.7490	.9915	.2890	.2189	-.0779
HR Slack: Marketing Planning * Moderator	.5664	-.1940	.7631	.9650	.2664	.1262	-.0865
HR Slack: Sales Mgt. & Field Forces * Moderator	.8261	-.2291	.6774	.9912	.3085	.3827	-.0595
HR Slack: Back Office Account.	-.0904	**.8132**	-.0987	-.1934	-.4259	-.1684	.1360
HR Slack: Financial Controlling & Business Mgt.	-.0360	**.8375**	-.0951	-.1834	-.4145	-.2468	.3136
HR Slack: Technical Services	-.0857	**.8753**	-.1107	-.1675	-.3482	-.2375	-.0286
HR Slack: Warranty Administration, Auditing & Parts Checking	-.1037	**.8031**	-.1079	-.1826	-.2808	-.2589	-.0401
Novelty in the Market Activity	.2029	-.4516	.0265	.3040	1.000	.1040	-.1472
Customer Equity-based Residual Value	.5968	-.2717	-.0622	.3015	.1040	1.000	.0881
Control: Environmental Uncertainty	.0512	.1429	-.2614	-.0856	-.1472	.0881	1.000
The loadings of each indicator on the supposed construct must be greater than all other cross loadings (Chin 1998, Götz et al. 2009).							

Table 20: Discriminant validity analysis on the indicator level: cross loadings (study II)

5.9.3. Evaluation of the Structural Model & Results of the Hypotheses Testing

We evaluated the structural model (see Figure 8) based on the criteria commonly applied in the PLS literature (e.g., Chin 1998, Henseler et al. 2009). The central goodness of fit measure for PLS is the coefficient of determination (R^2, see Table 21). In our main effects model, the latent endogenous variable novelty in market actions had a weak to moderate R^2 value of .239, the R^2 of the customer equity-based residual value of the customer base was moderate (.426) (Chin 1998). For the moderated model, the R^2 was moderate (.339)

for novelty in market actions and moderate for CE (.426). Our models consisted of only two exogenous latent variables in the main effects model and three in the moderated model so that the moderate explanatory powers in our models could be seen as a confirmation for model fit (Henseler et al. 2009 p. 303). Table 22 shows the original sample path coefficients and the sample means, standard errors, t-values and significance levels from the bootstrapping procedures for the main effects model. The t-test output rested on estimates obtained from a bootstrapping procedure (1,000 subsamples, 56 cases, with individual sign changes). We used this procedure to calculate the significance levels of the structural relationships.

In general, we found support for the hypothesized effects of our slack variables on the collective long-term value of the business units' customer bases. Table 23 provides an overview of the individual outcomes of the hypotheses. For Hyp. 1, the direct model path from HR slack in customer value supporting functions to the customer equity-based residual value was negative and significant (-.291, $p < .05$). We also checked the effect strengths (f^2) of the exogenous variables. This is the quantified effect of the exogenous variable on the endogenous variable (Table 21, Cohen 1988). Mathematically, f^2 denotes 'the increase in R^2 relative to the proportion of variance of the endogenous latent variable that remains unexplained' (Henseler et al. 2009 p. 304). We obtained a medium-sized f^2-value of .110 for this direct effect (Chin 1998 p. 317, Cohen 1988). We did not assess the predictive relevance for the relationships because the Q^2-values are only applicable for endogenous latent variables with reflective measurement constructs while formative endogenous constructs do not deliver meaningful Q^2 values (Fornell & Bookstein 1982, Geisser 1975, Stone 1974, Tennenhaus et al. 2005).

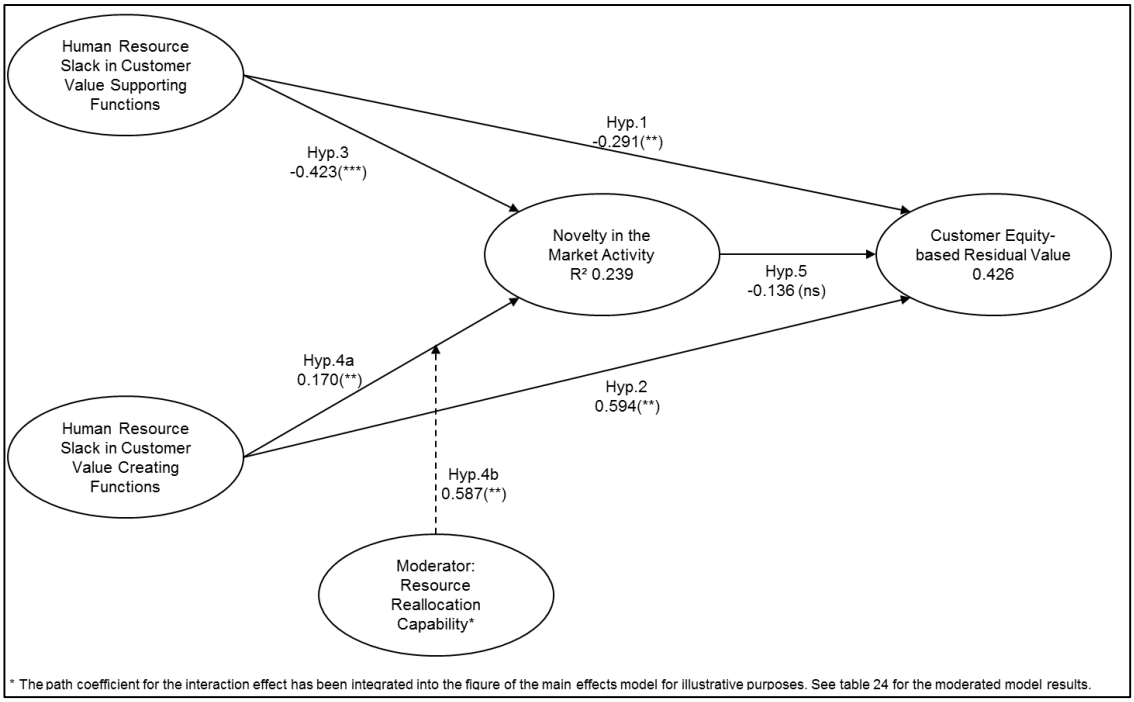

Figure 8: Results of the structural equation model (study II)

There was also support for Hyp. 2. It proposed that HR slack in customer value creating functions would have a positive direct impact on the customer equity-based residual value. The path coefficient was strongly positive and significant (.594, $p < .05$) and the strength of the effect (f^2) was very large (.590). As predicted in Hyp. 3, we found a negative and significant (-.423, $p < .01$) relationship between HR slack in customer value supporting functions and the degree of novelty in the market actions. The strength of the effect (f^2) for the path from slack in customer value supporting functions to the novelty in market actions variable was medium to large (.230) (Chin 1998 p. 317, Cohen 1988). In Hyp. 4a we predicted that HR slack in customer value creating functions would have a positive effect on the novelty in market actions. We found support for this hypothesis. The path coefficient of .170 was significant ($p < .05$) but the effect size remained relatively small (.040). We also calculated squared terms for each HR slack variable to substitute for the plain slack variables. We did so to rule out concerns of a curvilinear relationship between slack and performance where very high and very low slack levels would have lower performance outcomes as suggested by several researchers (e.g., Bourgeois 1981). Compared to the plain slack variables, the obtained path coefficients, directions and significance levels from this squared variable model did not significantly change so we did not develop this idea further. The proposed positive link between a more novel set of marketing actions and the customer equity-based residual value of the customer base (Hyp. 5) was found to be weakly negative but not significant (-.136, ns) so we did not find support for hypothesis 5. Although not explicitly hypothesized, we also assessed the indirect and total effects of the structural model because the degree of novelty in the set of market actions acted as an indicator for intermediate outcomes in our model. This was of particular interest because we wanted to gain a deeper understanding which would be beyond the current state of the art in literature. We aimed at understanding the underlying mechanisms through which firms transformed their excess resources into customer value. We therefore analyzed the indirect and total effects using a bootstrapping resampling procedure to determine the significance of the indirect effects as suggested by Preacher & Hayes (2004). For slack in customer value supporting functions, the indirect effect ran via novelty in market actions to the customer equity-based residual value of firms' customer base (see Table 22). It was close to zero and insignificant (.058, ns). The same was true for the indirect effect for customer value creators to the customer equity-based residual value (-.023, ns). We also considered the total effects following the recommendations of Albers (2009) and Henseler et al. (2009 p. 304) because the inclusion of indirect relationships could have potentially caused declining path coefficients. The total effects, in contrast, can be expected to remain relatively unaffected in these events. For the total effects, we found significant relationships with signs that were consistent with our theoretical argumentation line. The total effect for slack in customer value supporting functions was the sum of the indirect and the direct effect from the latent exogenous variable to the customer equity-based residual value. It was negative and significant (-.233, $p < .10$). For slack in customer value creating functions this effect was strongly positive and significant (.571, $p < .10$). Considering the effect sizes of the total effects, the positive

total effect for customer value creators (f^2 = .590) was much stronger than the total effect for customer value supporters (f^2 = .110). Our findings provided valuable insights for the drivers of customer equity-based valuation with regard to firms' resource allocation decisions when having excess resources.

Effect sizes: main effects model	**path to**	**R^2 including variable**	**R^2 excluding variable**	**effect strength[1] (f^2)**
HR Slack: Customer Value Creators	→ Novelty in Market Activity	.2390	.2110	.04
	→ Customer Equity-based Res. Value	.4260	.0900	.59
HR Slack: Customer Value Supporters	→ Novelty in Market Activity	.2390	.0660	.23
	→ Customer Equity-based Res. Value	.4260	.3600	.11
Control: Environmental Uncertainty	→ HR-Slack: Customer Value Creators	.0030	.0000	.00
	→ HR-Slack: Customer Value Supporters	.0200	.0000	.02
	→ Novelty in Market Activity	.2390	.2270	.02
	→ Customer Equity-based Res. Value	.4260	.4190	.01
Effect sizes: moderated model	**path to**	**R^2 including variable**	**R^2 excluding variable**	**effect strength[1] (f^2)**
HR Slack: Customer Value Creators	→ Novelty in Market Activity	.3390	.2140	.19
	→ Customer Equity-based Res. Value	.4260	.0900	.59
HR Slack: Customer Value Supporters	→ Novelty in Market Activity	.3390	.2190	.18
	→ Customer Equity-based Res. Value	.4260	.3600	.11
Resource Realloca-tion Capability	→ Novelty in Market Activity	.3390	.2390	.15
HR-Slack: Customer Value Creators * Reallo. Capability	→ Novelty in Market Activity	.3390	.2600	.12
Control: Environmental Uncertainty	→ HR-Slack: Customer Value Creators	.0030	.0000	.00
	→ HR-Slack: Customer Value Supporters	.0200	.0000	.02
	→ Novelty in Market Activity	.3390	.3140	.04
	→ Customer Equity-based Res. Value	.4260	.4190	.01

[1] effect strength (f^2) = (R^2_{incl}- R^2_{excl}) / (1-R^2_{incl}) ≥ .02 = small influence, ≥ .15 = medium influence, ≥ .35= substantiated influence of the latent exogenous variable on the latent endogenous variable (Chin 1998 p. 317).

Table 21: Effect strengths of the latent exogenous variables (study II)

Control Variables

We ran the main effects and moderated model both including and excluding the control variable to analyze the impact of the environmental context factors. We tested for significant differences in the parameter estimates based on the distribution-free non-parametric approach of Henseler et al. (2009 p. 309) which was originally developed for group comparisons. We calculated the probability of differences in the parameter estimates between the two models based on the non-parametric bootstrapping procedure output for each model (5,000 subsamples, 56 cases, individual sign changes; Henseler et al. 2009 p. 309). We did not find significant differences. The paths from the control variable environmental uncertainty to the market action construct showed only very weak effects (-.096, $p < .10$ and -.160, $p < .10$) for the main effects and the moderated model, respectively. Consistently, the strength of the control effect (f^2) was very small (see Table 21; Cohen 1988). Indirectly, we also controlled for size. Given our findings, we could be confident that our estimated models had not been distorted by firm size effects or the environmental context factor.

	Path	Original Sample[1]	Sample Mean	Standard Error	T-Values
Direct effects					
HR Slack: Customer Value Creating Functions	→ Novelty in Market Activity	.170 (**)	.208	.0897	1.8926
	→ Customer Equity-based Res. Value	.594 (**)	.529	.2586	2.2972
HR Slack: Customer Value Supporting Functions	→ Novelty in Market Activity	-.423 (***)	-.393	.1102	3.8361
	→ Customer Equity-based Res. Value	-.291 (**)	-.278	.1293	2.2506
Novelty in Market Activity	→ Customer Equity-based Res. Value	-.136	-.164	.1135	1.2008
Control: Environmental Uncertainty	→ HR-Slack: Customer Value Creators	.051	.194	.2199	.2328
	→ HR-Slack: Customer Value Supporters	.143	.185	.1319	1.0830
	→ Novelty in Market Activity	-.096 (*)	-.101	.0727	1.3132
	→ Customer Equity-based Res. Value	.079	.141	.1213	.6530
Indirect effects					
HR Slack: Customer Value Creating Functions	→ Customer Equity-based Res. Value	-.023	.026	.045	.5145
HR Slack: Customer Value Supporting Functions		.058	.043	.073	.7945
Total effects					
HR Slack: Customer Value Creating Functions	→ Customer Equity-based Res. Value	.571 (*)	.382	.4172	1.3688
HR Slack: Customer Value Supporting Functions		-.233 (*)	-.213	.1440	1.6207

1 *= significant at 10%; **= significant at 5%; ***= significant at 1%; one-tailed test, non-parametric bootstrapping procedure with 1,000 samples, 999 degrees of freedom. For the indirect effect, we ran a separate model excluding the direct paths of the slack constructs to customer equity to obtain the sample mean, standard error and t-value data. The direct coefficients of the paths to market activity have been multiplied with the path from market activity to customer equity to obtain the path coefficients for the indirect effects. The total effects are calculated as follows: slack multiplied by the direct path to market activity, plus the direct path from slack to customer equity.

Table 22: Modeling results of the main effects model (incl. control variable) (study II)

	Hypothesis	Independent Variable	Dependent Variable	Hypothesized direction	Model estimates: direction & significance	
1	The greater the level of human resource slack in customer value supporting functions, the lower the firms' customer equity-based residual value.	HR-slack customer value supporters	Customer equity-based residual value	neg.	neg. (**)	✓
2	The greater the level of human resource slack in customer value creating functions, the greater the firms' customer equity-based residual value.	HR-slack customer value creators	Customer equity-based residual value	pos.	pos. (**)	✓
3	The greater the level of human resource slack in customer value supporting functions, the less novel the combination of market actions.	HR-slack customer value supporters	Novelty in the market activity	neg.	neg. (***)	✓
4a	The greater the level of human resource slack in customer value creating functions, the more novel the combination of market actions.	HR-slack customer value creators	Novelty in the market activity	pos.	pos. (**)	✓
4b	The relationship between slack resources in customer value creating functions and the degree of novelty in the market activity is positively moderated by the level of the firms' reallocation capability: The greater the firms' resource reallocation capability, the more enhanced will be the relationship between human resource slack in customer value creating functions and the novelty element in the firms' market activity.	Interaction effect: HR-slack customer value creators * resource reallocation capability	Novelty in the market activity	pos. Δ pos.	pos. (**) Δ pos. (*)	✓
5	The greater the novelty element in the firms' market activity, the higher firms' customer equity-based residual value.	Novelty in the market activity	Customer equity-based residual value	pos.	neg. (ns)	×

* = significant at a 10% level; ** = significant at a 5% level; *** = significant at a 1% level; ns = non-significant; based on one-tailed tests.
Δ = impact of the change from the unmoderated (Hyp. 4a) to the moderated path coefficient (Hyp. 4b) when incorporating the moderator effect.

Table 23: Overview of the hypotheses (study II)

Construction and Results of the Moderator Effect

We attributed a positive moderation effect to the firms' human resource reallocation capability in order to capture the proactive perspective of flexibility creation (Hyp. 4b). For

this, we extended the main effects model to include an interaction term. We multiplied the single-item moderator variable 'HR reallocation capability' with each of the reflective indicators of the 'slack in customer value creating functions' construct (Baron & Kenny 1986, Henseler & Fassott 2010). We assumed that firms with a strong HR reallocation capability were better able to use their excess resources proactively and more strategically to create customer and firm value enhancing novel market actions. The path of the interaction term for customer value creators and the moderator on market activity was highly positive and significant (.587, $p < .05$, see Table 24) while the strength of the effect was relatively weak ($f^2 = .120$, see Table 21). Compared to the path coefficient that was running from customer value creators to market actions in our main effects model (.170), the absolute value of the path coefficient (.587) was much higher but this increase was just above the 10% significance level. While not hypothesized, we also tested the direct path from slack in customer value creating functions to the customer equity-based residual value under the moderation scenario. The path was positive (.233) but insignificant so we did not include this moderated path into the final model. This was in line with recommendations on parsimonious model specification frequently requested by SEM literature. Based on only partial support for Hyp. 4b, we aimed to go further into the matter of firms' different capabilities levels for HR reallocation. Applying a median split technique to the original sample, we identified one group with high and one with low levels of HR reallocation capabilities. We re-estimated the PLS main effects model for each group separately (see Table 25). We obtained 5,000 subsamples using a bootstrapping routine based on 28 cases for each group and conducted a distribution-free non-parametric multi-group analysis (MGA) approach as proposed by Henseler et al. (2009 p. 309) to analyze the path coefficients for potential inter-group differences. With regard to the small sample size of these two sub-samples (n=28 for each) we were aware that the results could at best be indicative due to the small sub-sample size. In PLS, however, sample sizes of n=20 have been argued to detect significant relationships. They can provide meaningful results in the presence of strong underlying effect sizes (Chin & Newsted 1999, Henseler et al. 2009, Jöreskog & Wold 1982, Wold 1989). The indicative MGA findings of the model comparisons confirmed a considerable difference in the path coefficients running from slack in customer value creating functions to market actions. The relationship turned out to be positive and significant (.429, $p < .01$) for firms in the group of high HR reallocation capabilities while it was negative for the group with low capabilities (-.174, ns). This inter-group difference was significant ($p < .01$). Beyond this, we also found a significant difference for the link between slack in customer value creating functions and the customer equity-based residual value. This indicated that firms with strong reallocation capabilities could convert their slack resources into customer equity-based residual value (.792, $p < .01$). For firms in the group of weakly pronounced reallocation capabilities, in contrast, the path was negative and significant (-.347, $p < 0.10$). This indicated that they were unable to make use of their customer value creating slack resources in a proactive manner due to their less pronounced level of resource reallocation capabilities. Based on this additional multi-group analysis, we derived support for hypothesis 4b. With regard

to slack in customer value supporting functions, the data confirmed our theoretic argumentation line and did not show strong differences in the path coefficients.

	Path	Original Sample[1]	Sample Mean	Standard Error	T-Values
Direct effects					
HR Slack: Customer Value Creating Functions	→ Novelty in Market Activity	-.070	-.250	.328	.2123
	→ Customer Equity-based Residual Value	.594 (**)	.500	.261	2.2770
HR Slack: Customer Value Supporting Functions	→ Novelty in Market Activity	-.362 (***)	-.366	.108	3.3433
	→ Customer Equity-based Residual Value	-.291 (**)	-.275	.137	2.1314
Market Activity	→ Customer Equity-based Residual Value	-.136	-.174	.116	1.1732
Moderator: Resource Reallocation Capability	→ Novelty in Market Activity	-.451 (**)	-.435	.211	2.1430
HR-Slack: Customer Value Creators * Moderator	→ Novelty in Market Activity	.587 (**)	.624	.349	1.6819
Control Environmental Uncertainty	→ HR-Slack: Customer Value Creators	.051	.207	.223	.2296
	→ HR-Slack: Customer Value Supporters	.143	.181	.134	1.0702
	→ Novelty in Market Activity	-.160 (*)	-.180	.121	1.3176
	→ Customer Equity-based Residual Value	.079	.142	.117	.6754
Indirect effects					
HR Slack: Customer Value Creating Functions	→ Customer Equity-based Residual Value	.010	-.010	.0830	.1205
HR Slack: Customer Value Supporting Functions		.049	-.036	.0670	.7313
Moderator: Resource Reallocation Capability		.062	-.042	.0900	.6889
HR-Slack: Customer Value Creators * Moderator		-.080	.064	.1477	-.5416
Total effects					
HR Slack: Customer Value Creating Functions	→ Customer Equity-based Residual Value	.604 (*)	.356	.443	1.3627
HR Slack: Customer Value Supporting Functions		-.242 (*)	-.208	.159	1.5170
Moderator: Resource Reallocation Capability		.062	.065	.076	.8058
Employee Slack: Customer Value Creators * Moderator		-.080	-.073	.114	.7040

1 *= significant at 10%; **= significant at 5%; ***= significant at 1%; one-tailed test, non-parametric bootstrapping procedure with 1,000 samples, 999 degrees of freedom. For the indirect effect, we ran a separate model excluding the direct paths of the slack constructs to the customer equity-based residual value to obtain the sample mean, standard error and t-value data. The direct coefficients of the paths to novelty in the market activity have been multiplied with the path from novelty in the market activity to the customer equity-based residual value to obtain the path coefficients for the indirect effects. The total effects are calculated as follows: slack multiplied by the direct path to novelty in the market activity, plus the direct path from slack to the customer equity-based residual value.

Table 24: Modeling results of the moderated model (incl. control variable) (study II)

		High level of reallocation capability				Low level of reallocation capability				Significance level of the differences between high and low[2]
		Original Sample[1]	Sample Mean	Standard Error	T-Values	Original Sample[1]	Sample Mean	Standard Error	T-Values	
HR-Slack: Customer Value Creators	→ Novelty in Market Activity	.429 (***)	.427	.138	3.1140	-.174	-.295	.204	.8519	p< .01
HR-Slack: Customer Value Creators	→ Customer Equity-based Res. Value	.792 (***)	.642	.310	2.5565	-.347	-.444	.290	1.1941	p< .01
HR-Slack: Customer Value Supporters	→ Novelty in Market Activity	-.432 (***)	-.399	.125	3.4471	-.268 (*)	.303	.200	1.3382	ns
HR-Slack: Customer Value Supporters	→ Customer Equity-based Res. Value	-.345 (**)	-.368	.159	2.1775	.046	.281	.225	.2058	p< .05
Novelty in Market Activity	→ Customer Equity-based Res. Value	-.195	-.227	.172	1.1347	-.383 (**)	-.374	.195	1.9659	ns

1 *= significant at 10%; **= significant at 5%; ***= significant at 1%; one-tailed test, non-parametric bootstrapping procedure with 5,000 samples, 4,999 degrees of freedom). 2= MGA approach to test the path coefficients of the two groups for significant differences (Henseler et al. 2009).

Table 25: Multi-group analysis for differences in the level of HR reallocation capabilities (study II)

5.10. Discussion and Conclusions

Based on the highly insightful empirical results, we advise against holding HR slack in customer value supporting functions. This is based on the obtained empirical evidence of the negative effects on flexibility and the customer equity-based residual value. We did not find evidence that HR slack in customer value supporting functions would contribute to the creation of market-focused flexibility. This supported our argument that researchers should not conceptualize models that solely link slack to performance. This could result in misleading conclusions because our findings indicated that the pure possession of resources was not of any value in the eyes of the customers. Our findings showed that researchers should not automatically assume that slack resources indicate flexibility without taking a closer look at the location of slack. Firms are therefore advised to regularly review the composition and size of their customer value supporting functions as environmental changes may have created slack unnoticed by the firm. This is especially important because our data indicated that slack in these functions had negative value implications for the firms' customer base value. As hypothesized, we found support that potential benefits resulting from improved internal operations and processes are overcompensated by the costs of tolerating HR slack in these business functions. This would abound in negative effects for firms' customer equity-based residual value of the customer base. Flexibility has generally been said to carry a cost. The negative performance outcomes for customer value supporting functions are a sign of the ineffectiveness of holding HR slack

in these functions for the purpose of creating customer value through market-focused flexibility. For the firms in our data set, slack in supporting functions is an ineffective strategy to enhance the value of the firm's customer base because the resulting internal process improvements cannot be a direct source of customer value. While this type of HR slack does not make firms more flexible, this does not imply, however, that firms are not interested in flexibility for these support functions. Quite the opposite, changing work intensities call for alternative sources of flexibility to ensure a solid business foundation. We recommend to keep customer value support functions at rather low levels and draw on alternative sources of flexibility such as external service providers to cover unforeseen changes. Although not directly flexibility creating, this lean approach to manage customer value supporting functions may at least be customer value creating and value enhancing for the customer base by providing degrees of freedom to lower the cost for both the firm and the customer. Indirectly, the avoidance of commitments and the easing of the accounting records could allow firms to transform parts of their planned absorbed HR slack into available slack, in other words, financial flexibility. This would be a more promising approach for HR slack in customer value supporting functions because financial flexibility has been argued to promote internal flexibility which, in turn, could have positive performance outcomes (Donaldson 1971).

Beach et al. (2000) noted a gap in flexibility literature with respect to the methods of delivering flexibility. Therefore, research on flexibility has often been criticized for not providing concrete standard operating procedures (Skordoulis 2004). Our empirical findings provided evidence that firms with reasonable levels of HR slack in customer value creating functions could use resources in excess of the current demands as a source of reactive market-focused flexibility. While slack levels naturally fluctuate with changing market demands, the resource levels per se are resource allocation decisions that must actively be managed. Flexibility has often been said to have a cost and previous CLV- and CE-based research contributions have shown that not all customers are equally profitable (Gupta et al. 2006 p. 140). Contributing to this, our study provided empirical evidence that not all slack locations are equally customer and firm value enhancing. Our findings of a positive total effect for HR slack in customer value creating functions on the novelty in the market actions and the customer equity-based residual value of the customer base are enlightening. We showed that the flexibility benefits outweigh the costs of tolerating certain HR slack levels in customer value creating functions. This provided support that managers do not generally need to fear the existence of slack. Rather, our findings suggested that the wide-spread lean management mindset does not drive firms' long-term value indicators. For firms that wish to avert market threats of competitors or act on unfolding market opportunities, our findings showed that holding HR slack in customer value creating functions is a good source of reactive market-focused flexibility. We found evidence that the self-selecting mechanism of employees in customer value creating functions could be used to create market-focused flexibility. Based on their market know-how, employees were able to reassign their priorities to the areas in need. It must

be emphasized that this, in turn, met firms' immediate flexibility requirements. The findings of a positive relationship between HR slack in customer value creating functions and degree of novelty in the market activity showed that firms benefited from this reactive use of slack resources by gaining access to very timely market actions that innovated the market environment. This is a truly remarkable finding because the self-selecting mechanism of the employees is strategically uncoordinated by the management. We further showed that this sense-and-respond approach was an effective and customer value enhancing way and firms actually made use of this market-focused flexibility to create value. Interestingly, the strength of the direct effect on the customer equity-based residual value was found to be large while the strength of the indirect effect was small. The total effect to the customer equity-based residual value was significant but not the indirect effect. This showed the strong direct performance effect. At the same time, this also indicated that our market activity measure may not have captured the full range of flexibility effects inherent in the HR slack. The strong direct effect of slack on the customer equity-based residual value suggested that there were further, so far unrevealed, benefits of holding appropriate HR slack levels in customer value creating functions. For managers this means that they could anticipate additional outcomes from tolerating slack in these functions whereas researchers are requested to uncover the sources of additional benefits. The flexibility arising from slack in customer value creating functions could itself be a multi-dimensional construct while our market activity-based flexibility measure may have captured only one sub-dimension of a larger overall flexibility construct that also comprised other sub-dimensions of flexibility.

Our findings indicated that managers could also make use of these slack levels in a proactive way. Firms with well-developed resource reallocation capabilities were better able to promptly redirect excess work capacities to strategically promising areas and projects. They were thereby able to make full and most importantly immediate use of their HR-inherent potential by directing the valuable capabilities to the areas where they could unfold the greatest flexibility effects and the highest customer value contribution. Managers gained multiple benefits from improvements in the internal re-staffing processes in customer value creating functions. Firstly, there was an immediate boost to flexibility which enabled them to use HR slack in a proactive manner. Secondly, firms that re-allocated their employees within the related functional areas ensured a more frequent exchange of capabilities among their employees which additionally drove flexibility. The positive and significant total effect made slack in customer value creating functions a valuable investment because it enhanced the value of the firms' customer base. Our empirical findings of a strong and positive link between HR slack in customer value creating functions and the degree of novelty in the market activity under moderation of firms' resource reallocation capabilities should encourage firms to develop strong resource reallocation capabilities to unlock the full potential of HR slack. This would help to strategically appoint excess capacity to related organizational areas with promising value potential. These findings provided evidence that excess resources could be used in a coordinated and well-

targeted strategic manner and that the proactive use of slack was customer equity-based residual value enhancing. It remains up to future researchers to provide further empirical insights for firms on how to create, maintain and grow these resource reallocation capabilities. Our results were highly relevant because they provided managers of local sales firms with a tangible justification for tolerating HR slack levels in certain locations. Our findings guide managers in identifying and actively managing the critical locations where slack resources unfold flexibility effects and drive customer-based valuation of the firm. Nevertheless, the negative coefficient for the path from market actions to customer equity was surprising. We expected a strong positive effect. Although insignificant in our structural model, this negative sign led us to assume that the adverse impact of slack in customer value supporting functions could dominate over the positive effect of customer value creators. The sign could be driven by the costs of keeping slack in customer value supporting functions. Alternatively, this could also be further support for our assumption that we captured only one sub-dimension of the flexibility construct and that the combined effect for this overall concept would be positive as hypothesized. This could be the case when the individual sub-dimensions of the flexibility concept interact with each other to drive overall performance. Further empirical research needs to be done in order to shed light on these surprising findings especially because our theoretical argument that flexibility drives performance remains strong.

Managers are challenged by the performance targets of their shareholders and this frequently affects their resource allocation decisions. The strength of our study is that it provided managers with an empirically substantiated guideline to make value enhancing resource reallocation decisions. Based on the empirical findings, we explicitly named the areas for inappropriate slack allocation decisions for customer value supporting functions because they are likely to cause negative effects on the overall value of the firm's customer base. Our study helped managers to carefully differentiate business areas in which they should tolerate slack levels without experiencing performance declines and identify areas where they should manage slack more restrictively. Moreover, we have obtained convincing support for the majority of our hypothesized relationships and responded to calls for more empirical models that integrated both resource possession as well as resource deployment decisions (Slotegraaf et al. 2003 p. 295). Our study helped managers and researchers to identify the critical locations where slack resources could drive customer value and thus avoid resource misallocation. We were confident that these findings could be generalized across industries with comparable competitive environments where local sales firms act as extended arms of their manufacturers. This is because our data set comprised fine-grained high quality data without being overly focused on automotive specifics. In summary, our empirical results provided a guideline for managers to actively manage their intended slack levels, i.e., to allocate them to the right places and 'recognize and act promptly when it is time to halt or reverse such resource commitments' (Shimizu

& Hitt 2004 p. 45). In doing so, we showed the impact of marketing actions on the customer equity-based firm valuation which had frequently been requested by researchers in order to link marketing decisions to financial implications on the firm level.

5.11. Limitations & Future Research

Based on our approach to establish a close working cooperation with the managers of our research objects, our model has overcome the critique of Gupta (2009 p. 172) that more efforts need to be invested in forecasting future margin structures. Future researchers are thus advised to give preference to small but highly fine-grained data sets over large but coarse-grained samples. This is especially because our results have proven to be robust and meaningful despite the small sample size. Our approach constituted a valuable starting point to further assess the value of the firm by adjusting the purely operative free cash flows that we used by additional effects of non-operative assets and the market value of debts. The outcomes could be used as a complement in order to validate classical NPV-approaches. This would especially be valuable because a market-focused calculation of the firms' value would enrich the NPV-dominated valuation models regularly applied by finance with a customer value-oriented perspective. There are many indications that customer equity-based approaches would be a good proxy for the firm value (Gupta 2009 p. 172). Future research needs to provide further evidence for the relevance of customer equity or customer base related firm valuation approaches. Based on this, we believe that such performance variables have the potential to become the predominant performance measure in marketing strategy and flexibility research contributions. With regard to the measurement of customer equity, Gupta et al. (2006 p. 142) have criticized the reliance of many models on historical customer behavior data to project future cash flows. This is mainly because they ignore the fact that 'consumers' past behavior may be a result of firm's past marketing activities' (Gupta et al. 2006 p. 142). Being a shortfall of many long-term value studies, this aspect is a strength of our study as we used market data with a dynamic component that reflected future market developments based on trend analyses and economic forecasts obtained from the manufacturers. Still, our linear extrapolation of customers' retention and referral behaviors to project future cash flows may be inaccurate as it may have been biased by behavioral patterns of the past. Future research may want to incorporate a dynamic component to reflect future customer behavior, for instance, based on trend models. Moreover, according to the lifecycle concepts of many industries, customers may increase their inflation-adjusted total revenues across their lifetime relationship with the firm (Reichheld & Teal 1996). Future researchers could explicitly incorporate this up-selling value of the customer base when calculating the long-term value of a customer base. Dorrington & Goodwin (2002) have doubted the reliability of long-term CLV- or CE-based calculations since environmental uncertainties could change the value considerably. Although we controlled for environmental uncertainty to reflect the different environments that firms in our cross-country data set had to deal with, future researchers could provide for unforeseen events by computing CE corridors using best and worst case scenario techniques or even incorporate real option based models.

Our conceptualization lent a face to market-focused flexibility by combining excess resources and resource reallocation capabilities to reflect the internal process of creating and enhancing flexibility. This was of utmost importance for a concept that has been described as nebulous and hard to capture (Aaker & Mascarenhas 1984, Golden & Powel 2000, Sethi & Sethi 1990). The relatively weak findings for the indirect effect of slack on the degree of novelty in the market actions and the insignificant relationship from novel market actions to the customer equity-based residual value call for alternative measurements and conceptualizations which capture the process that firms use to transfer their excess resources into customer equity. While we have concentrated on a general set of market activities, it could be more promising to split the market activities into three groups each reflecting one of the key drivers of customer equity (i.e., value equity, brand equity, relationship equity) as conceptualized by Rust et al. (2000). Researchers could use pricing and quality campaigns that target the customers' objective assessment of the received utility to capture changes in value equity-related market activities. With regard to brand equity, researchers could measure image campaigns and marketing communication that affect the customers' brand awareness and their attitude towards the brand. Finally, relationship capital could be represented by CRM- and customer loyalty programs including actions such as bonus campaigns and newsletters. This tripartition would allow for conclusions on both the appropriate use of slack resources as well as its firm value outcomes. As a result, researchers would be able to make recommendations on where to tolerate or even intentionally place excess human resources to induce positive changes in one or more of the three market action types that reflect the drivers of customer equity. As a second step, researchers could relate the grouped activities to customer equity which would enable them to draw conclusions about the indirect and total effects that might have been clouded in our study due to the missing separation of customer equity driving market actions. Our conceptualization provided a solid basis for these research approaches.

6. Study III

Internal and External Flexibility Types in Market-focused Contexts: An Empirical Analysis of the Customer Equity-based Performance Outcomes

Which flexibility types enhance the expected residual value of the firms' customer base under different contingencies?

6.1. Introduction

In the course of the events surrounding the financial and economic market disturbances in recent years, many firms have been challenged by rapidly changing market conditions. Managers found themselves fighting fires in unforeseen events and changing market conditions while trying to maneuver their firms through these troubled waters. Calls for flexibility quickly spread in the headlines of many business newspapers. Ever since then, flexibility has become a universal concern for managers and a much talked about topic. Regardless of the recurring flexibility trend waves in the popular management literature during times of crisis, scholars have continuously addressed the topic over the last three decades. The majority of research contributions focused on specific aspects of organizational flexibility in functional business areas such as in finance, human resources, manufacturing, logistics or the supply chain. Slack (1987) related much of the ambiguity and confusion surrounding the flexibility concept to the lack of frameworks that observe the different types and aspects of flexibility within one conceptual model rather than in isolated functional analyses. In a case study in a manufacturing context, Slack (1987) found that firms focus their flexibility efforts on the resource rather than the system level. Managers pointed to resource flexibility but they did not unaidedly mention how resource flexibility relates to their firms' overall flexibility and performance (Slack 1987). According to Vokurka & O'Leary-Kelly (2000 p. 493), this could indicate firms' strategic focus on the enhancement of specifically selected flexibility dimensions. For us, it reveals the lower-level managers' overemphasis on flexibility in their functional area to the disadvantage of firms' overall flexibility. Beach et al. (2000) criticized that the disclosure of multiple flexibility types in the academic literature did not advance the overall understanding of the construct. Much uncertainty remains regarding the relevance of the various flexibility types in different situations. Suarez et al. (1991) criticized the fragmented flexibility literature for being unable to provide basic answers to managers with regard to the conditions that call for specific types of flexibility. Contingent on the situation, some types of flexibility may be more valuable than other types (Suarez et al. 1991). For managers and researchers alike, it is of utmost relevance to understand how the individual function-specific flexibility sub-types contribute to firm performance given different contextual factors and firm characteristics. In fact, an isolated examination could overemphasize some functional flexibility types at the expense of firms' overall flexibility and this would misguide top managers' resource allocation decisions. This is critical because flexibility itself arises from rapid resource reallocation decisions. Researchers must provide

guidelines for resource allocation decisions on the top management level. Anand & Ward (2004) noted a lack of empirical research on the different flexibility types that had been identified by previous research. They called for research on how specific types of flexibility contribute to the management of environmental conditions. In order to overcome the restricted functional view, Volberda (1998) viewed flexibility as a process that integrates all organizational functions, units and resources and attributed the task of optimizing these complex structures to the top management. Koornhof (1998 p. 159) stressed that flexibility is not a process that is restricted to only certain aspects or functions of the firm. From a market perspective, however, literature has not presented flexibility breakdown conceptualizations for firms operating in marketing, sales and service contexts. Given the market noise in recent years, it is surprising that researchers have only recently started to consider flexibility in a market-focused context (e.g., Johnson et al. 2003). We focus on resource reallocation decisions in marketing, sales and distribution functions because flexibility in these areas is especially important. They directly touch upon the market and the customers and immediately feel the consequences of changing circumstances. Beyond this, researchers must also develop an understanding of the implications of their flexibility decisions for both the customer and the firm value. We argue that the residual value of the firms' customer base defined as the 'combined lifetime values of all current and future customers' (Bauer & Hammerschmidt 2005 p. 332) constitutes an appropriate measure. Our innovative approach takes into consideration that the carefully selected composition of different flexibility sub-types which fits to both the environmental context and the firm characteristics, is a way of enhancing the firm's long-term value of its customer base. With regard to performance, resource allocation decisions must be guided by customer needs and must create value for customers and the firm alike. This is best captured in customer-based firm valuation approaches but surprisingly it has been unexplored so far. We intend to fill this gap in flexibility research. Our model captures financial, human resource, service supply chain and distribution chain flexibility in marketing, sales and distribution firms. It links these intra- and interorganizational flexibility types to the long-term value of the firm's customer base under different contingency levels of environmental uncertainty, competitive intensity and the degree of firm's market focus.

The paper is structured as follows. The next paragraph will introduce the flexibility concept and will provide a literature review for the two intra-organizational flexibility types financial and human resource flexibility. Service supply chain and distribution chain flexibility, as the inter-organizational flexibility types that arise at the firm's interface to its environment, are presented in the following paragraph. The flexibility-performance link will be discussed based on empirical findings in the academic flexibility literature. The paper is guided by the overall research question *'which flexibility types enhance the expected residual lifetime value of the firms' customer base under different contingencies?'* Based on this research question, we conceptualize the structural model and derive hypotheses for each flexibility type given high and low environmental uncertainty, competitive intensity conditions and different levels of firms' market focus. Our empirical study

draws on objective archival firm data from automotive marketing, sales and distribution business units. We use a PLS-based approach to estimate the structural equation model and access the moderation effects based on a multi-group analysis approach. The findings of our innovative study show that firms are advised to invest in financial flexibility and distribution chain flexibility to have immediate remedies in uncertain environments. In rather calm environments, they can contribute to the creation of customer equity by concentrating on capabilities for HR flexibility and service supply chain flexibility. Firms with an emphasized market-focused can benefit from the investment in HR flexibility but they should de-emphasize service supply chain flexibility. Finally, we critically discuss our findings and theorize about paths for future flexibility research.

6.2. Flexibility

Flexibility is the ability of firms to be adaptable and capable of change to rapidly respond to or initiate a wide range of situations and demands to satisfy the market expectations without incurring excessive costs, organizational disruptions or performance losses (Gustavsson 1984, Aaker & Mascarenhas 1984). Following Helfat et al. (2007), we perceive the creation of flexibility as a sequence of rapid internal and external resource reallocation processes and decisions on the operational business level. The options and choices that result from these rapid reallocation processes can be used for the deployment of the refreshed capabilities when there is a need or a desire for timely market actions. The field of business science and economics has spawned a substantive body of flexibility research, albeit spread across a wide range of management functions (Evans 1991). Flexibility occurs in numerous distinct forms and meanings so that several partly overlapping classification frameworks have been presented in literature in order to cope with the multiple faces of the concept. The breakdown of the generic term of flexibility into a variable with different sub-dimensions has become a well-established approach (Gerwin 1993, Suarez et al. 1995, Upton 1994). This is especially because empirical researchers have recognized the challenges of dealing with a multi-dimensional concept that comes in different senses and have thus increasingly tended to specify flexibility as a single second-order construct with various sub-dimensions on the first-order level (e.g., Anand & Ward 2004, Mandelbaum 1978, Rosenhead 1978, Sanchez 1995, Slack 1987, Upton 1994).

Several researchers have argued for the concept's applicability across organizational levels because it manifests itself at distinct levels and functions (Beach et al. 2000, Boguslaw & Porter 1962, Parsons 1951, Rousseau 1985, Weiss 2001). Even within a single firm different flexibility types on various organizational levels can be identified (Golden & Powel 2000 p. 373, Sethi & Sethi 1990). This implies that a single firm could be flexible in one area but highly inflexible in another (Suarez et al. 1995). Researchers have also differentiated between intra-organizational (internal) and inter-organizational (external) flexibility to refer to the firm's relationship with its environment during the flexibility creation process (Blyton & Morris 1992). External flexibility has been related to inter-organizational relationships and arises at the firm's interface to the environment

(DeMeyer et al. 1989, Gerwin 1993, Fredericks 2005, Gupta & Goyal 1989, Lei et al. 1996, Vickery et al. 1999). It requires resource coordination and reallocation capabilities that reach beyond the firms' borders. Firms can make use of interfirm resource reallocation and coordination capabilities to draw on additional sources of flexibility by establishing effective links with suppliers and other business partners (Fredericks 2005 p. 555, Vickery et al. 1999). Internal or intra-organizational flexibility, in contrast, refers to the creation of flexibility based on rapid internal resource reallocation processes within the realms of the firm. Aaker & Mascarenhas (1984 p. 81) provided examples that flexibility could be based upon any functional area. Indeed, functional-oriented papers within the firms' realms account for a significant share in the flexibility literature and are more common than papers on firms' overall flexibility. Flexibility has mainly been subject to discussions regarding the management of manufacturing, finance, human resources, procurement, supply chain, logistics and only more recently in marketing (Buzacott 1982, Donaldson 1971, Johnson et al. 2003, Jones & Ostroy 1976, 1984, Pasmore 1994, Sanchez 1997, Sethi & Sethi 1990, Slack 1983, Suarez et al. 1995, Trigeorgis 1996). In the downstream on the level of marketing, sales and distribution contexts still little research knowledge on flexibility exists. Being located at the critical interface between the production and the market, these functions frequently find themselves in the trade-off between maintaining high customer service levels and implementing lean management principles (Stevenson & Spring 2009 p. 961). Surprisingly, the challenges of marketing, sales and service tasks have widely been neglected in the flexibility literature despite being the gateway to the customers and directly touching upon the local market needs to ensure firms' immediate response to changing customer needs. From this, we derive that these functions have a particularly pronounced flexibility demand and managers need guidance on how to shape their portfolio of different flexibility types. An in-depth literature review and several expert talks with managers from the automotive industry, an industry that well-reflects the above described marketing, sales and distribution scenario, indicated that financial flexibility, human resource flexibility, service supply chain flexibility and distribution chain flexibility are among the most important flexibility types. These types are important because they enable firms to meet or exceed changing customer needs at short notice. Former flexibility literature did not provide knowledge on the promising compositions of firms' flexibility portfolio. We propose that firms' decisions on the composition of these different flexibility types are strategically highly relevant because the different functional flexibility sub-dimensions aggregate to firms' organizational flexibility (Ackoff 1977, Bahrami 1992, Carlsson 1989, DeLeeuw & Volberda 1996, Evans 1991, Golden & Powel 2000, Mascarenhas 1981, Volberda 1997). Therefore, we assume that a well-shaped flexibility portfolio could be a relevant driver of firms' customer equity. In the next part, we will investigate the different flexibility sub-types in greater detail.

6.2.1. Financial Flexibility

In finance, managers are frequently concerned with the availability and use of cash positions and cash flows, capital structure decisions and the ability to raise funds whenever required to ensure financial viability (Bernstein 1978 p. 510, Donaldson 1971 p. 7, FASB 1985, Jones & Ostroy 1976, 1984). Managers in marketing, sales and distribution functions must be able to deal with sudden unexpected events, environmental threats and an enforced divergence from their strategy and schedules without running out of cash. It is critical for them to be able to rapidly act during changing conditions. Because future market needs may be completely undefined or only vague and just evolving, to be successful managers must be able to rapidly seize and act upon strategic opportunities and new information. The net present value calculus which forms the traditional basis for managers' project and investment decisions, however, does not allow for unforeseen market developments and thus altered patterns of future cash flows (Trigeorgis 1993 p. 202). Yet, the timing of actions depends on the availability of financial resources (Greve 1998, Shimizu & Hitt 2004). Researchers have therefore discussed the different degrees of resource absorption and resource accessibility and have assigned immediate availability to uncommitted financial resources (Bourgeois 1981, Bourgeois & Singh 1983, Cheng & Kesner 1997, Finkelstein & Hambrick 1990, Singh 1986). Liquid resources can be applied interchangeably to multiple ends (Mishina et al. 2004 p. 1183). They can be transformed immediately and exchanged for promising market actions (Bourgeois & Singh 1983, Daniel et al. 2004 p. 567, Jones & Ostroy 1984 p. 21). Liquidity is desirable because 'it permits profitable exploitation of information not yet received' (Jones & Ostroy 1984 p. 24). Liquid positions provide immediate room for maneuvering and have thus been said to constitute a good source of flexibility (Ansoff 1965, Evans 1991, Frazer 1985, Jones & Ostroy 1984, Upton 1994, Volberda 1998). Jones & Ostroy (1984 p. 21) interpreted firms' liquidity level as their desire for flexibility. Donaldson (1971) observed that managers focus on their unused borrowing capacity and concluded that they consider these uncommitted resources as a source of flexibility. Liquidity 'can be readily converted into some alternative form of wealth with minimal switching costs' (Evans 1991 p. 74). For Donaldson (1971 p. 8) financial mobility was 'the capacity to redirect the use of financial resources in a manner consistent with the evolving goals of management as it responds to new information about the company and its environment'. Nevertheless, holding liquid positions for events that never materialize has a cost. By definition, flexibility requires that the rapid actions or reactions do not come along with excessive costs, organizational disruptions or performance losses. It follows that holding cash does not make firms flexible per se. It is rather their ability to manage their liquidity. Financially flexible firms are able to manage the quantity and the timing of their cash in- and outflows in order to deal with unexpected events (Koornhof 1998). They can choose between feasible alternatives when they are confronted with unforeseen events without incurring material harm (Shimizu & Hitt 2004 p. 49). Consistently, we follow Koornhof and define financial flexibility as the 'ability of organisations to raise or invest cash in sufficient amounts at the correct time and in the correct amount to balance expected and unexpected cash surpluses

or shortages caused by future events' (1998 p. 171). It is the firm's ability to deal with divergences from the scheduled business plan due, for instance, to sudden unexpected events, without running out of cash. This enables firms to rapidly act upon changed conditions. Financial flexibility arises from internal and external financing sources, changed operations and altered cost structures or investments (e.g., Bourgeois 1981). For managers, it is a balancing act between the costs of holding liquid assets and the probability assessment of finding themselves in a situation where they would need to make use of financial flexibility.

6.2.2. Human Resource Flexibility

Miller & Shamsie (1996) showed that human resources belong to the most critical firm resources. This is especially true for market linking activities in marketing, sales and distribution functions because they widely rely on the immediate availability of human resources to directly touch upon the customer value perceptions (Johnson et al. 2003 p. 85). Firms can respond to unexpected events with the help of their employees (Wu 2011 p. 277). More than technology, people are able to handle things flexibly and are thus a good source to accomplish a broad scope of market-focused tasks (Upton 1995, Wright & Snell 1998). Employees have been said to be more flexible if they possess a wider range of skills, capabilities or behavioral scripts (e.g., Ketkar & Sett 2010 p. 1176, Wright & Snell 1998). Besides this resource flexibility per se, Sanchez (1995) stressed that firms also need coordinating capabilities to make full use of their resources. To access the flexibility potential of the human work force, firms themselves must be flexible in allocating people to the right places. This is because the unavailability of staff in areas of demand could be costly with respect to disappointed customers or foregone market opportunities. Firms therefore need the ability to quickly re-allocate their existing human resources from the underemployed areas to tasks where they can unfold greater value contributions and they must be able to reverse such allocation decisions when the demand dries up (Descombre et al. 2006 p. 140, Shimizu & Hitt 2004 p. 45). We call this ability human resource (HR) flexibility and refer to the managerial capability and internal HR practice of coordinating, re-allocating and redeploying human resources at short notice. This is in line with previous research that presented HR flexibility as a valuable capability (Bhattacharya et al. 2005 p. 1, Wright & Boswell 2002, Wright & Snell 1998). Flexible firms are able to quickly move their employees according to the demands to functionally-related areas and hold options for an alternative deployment of their human resources (Descombre et al. 2006 p. 141, Ketkar & Sett 2010 p. 1176, Riley & Lockwood 1997 p. 414). This is important because Slotegraaf & Dickson (2004) brought forward that strong resource reallocation competences are beneficial for firms. Brusco et al. (1998) showed that the cross-utilization of staff is possible and a cost efficient mechanism with regard to staffing costs. Labor flexibility, in general, has been argued to be performance relevant (Cordery 1989, Cridland 1997, Pinefield & Atkinson 1988). Michie & Sheehan-Quinn (2001) empirically established a positive relationship for HR flexibility and productivity, creativity and in-

novation. There is also empirical evidence that firms which are operating under fluctuating demand conditions benefit from human resource flexibility (Descombre et al. 2006 p. 141). For us, human resource flexibility is an extremely valuable type of flexibility. In contrast to numerical HR flexibility, the ability to re-allocate existing employees conserves and broadens the firm-specific skills, capabilities and routines. Considering long-term value creation aspects, it constitutes a promising alternative to numerical HR flexibility which can be costly with regard to potential capability losses (Kelliher & Riley 2003). The reason d'être of the HR function and its value-adding role has frequently been questioned (Drucker 1954, Stewart 1996, Wright et al. 2001 p. 701). If deployed as an HR practice for managing the pool of human resources in order to support the overall firm strategy, however, HR flexibility can constitute a powerful tool for the entire firm (Drucker 1954, Stewart 1996, Wright et al. 2001 p. 701). Researchers have called for more research attempts to quantify the benefits of HR flexibility (e.g., Brusco et al. 1998). Until now, much HR-based flexibility research has focused on manufacturing backgrounds neglecting marketing, sales and distribution contexts. Researchers have also criticized the dominance of studies on numerical and external HR flexibility through outsourcing and downsizing and have called for more studies on internally created HR flexibility (Wright & Snell 1998, Descombre et al. 2006 p. 140).

6.2.3. Service Supply Chain Flexibility

Firms create marketing, sales and distribution functions to establish close market links and touch upon the very specific needs and wants of the local markets. Operating at the interface with the market, these functions are confronted with changing market needs and must be able to quickly handle all kind of unforeseen developments especially because their inability or inertia could result in lost sales, disappointed customers, deal-making competitors or lost opportunities. Firms must synchronize the service supply and demand which is challenging in uncertain environments because most of their services cannot be kept in stock because production, distribution and consumption are often simultaneous processes (Grönroos 2006). These conditions bring about the risk of an unused or oversubscribed service capacity. Most firms aim to have options at hand because their unused capacity cannot be claimed and the services themselves cannot be inventoried (Zeithaml et al. 1985). They may start to search for additional sources of flexibility by considering external options because in certain situations it would be too risky for them to accommodate the change solely internally (Abraham & Taylor 1993). Outsourcing could be one of these sources. Traditionally, there has been a strong focus on cost saving aspects in outsourcing research but researchers have more recently started to discuss outsourcing as a means of creating flexibility to manage market fluctuations and customers' expectations (Gilley & Rasheed 2000, Harrison 1994, Hendry 1995, Quélin & Duhamel 2003, Wasner 1999). We perceive outsourcing as a bundle of externally directed resource reallocation decisions. While outsourcing has frequently been subject to research discussions in the fields of operations and supply chain management, researchers have only recently begun to call for outsourcing studies in the downstream of manufacturing. Still, the implications

of outsourcing decisions in service-based industries and market-linking contexts still lack a deeper understanding (Grover & Malhotra 2003, Maltz & Sautter 1995 p. 241, McIvor 2009 p. 46). With regard to services from external providers, we argue that flexibility arises from timely and rapid reallocation decisions and the freedom to terminate these contracts altogether. Given the intrafirm links in the supply and distribution chain, for Vokurka et al. (2003) it logically follows that flexibility can also stretch beyond the firms' borders. We therefore introduce the term service supply chain flexibility as the ability of the firm to handle unexpected variations from the originally planned capacity utilization level by drawing on inter-organizational ties to initiate, extend or cut back on services of external providers in their service supply chain. We use the term outsourcing to refer to the external acquisition of activities and business processes that could have also been assigned internally to the regular employees since the firm possesses the managerial and financial capabilities to perform them (Abraham & Taylor 1993 p. 1, Gilley & Rasheed 2000). Despite inconclusive research findings and multiple cited outsourcing reasons, researchers agreed that outsourcing comprises the external acquisition of activities (Espino-Rodriguez & Padron-Robaina 2006 p. 52, Quinn & Hilmer 1994). Research has shown that tasks such as market research, media consulting services, warehousing, logistics and physical distribution are frequently outsourced (Kantsperger 2007 p. 339, 342, 355). More recently, services that directly link to the customers such as customer contact centers, loyalty programs or after sales services have been recorded as growing outsourcing candidates (Kantsperger 2007). The flexibility potential of outsourcing decisions is particularly valuable because occasionally, internally developed processes and services may not sufficiently cover the market requirements in terms of intensity, nature, scope and timeliness of the business services.

6.2.4. Distribution Chain Flexibility

The management of the distribution chain includes the coordination of the ordering process of new goods from the production level, the inventory-keeping of post-manufacturer finished goods and the order fulfillment process which is the delivery of finished products to the customers (DeLeeuw et al. 2011 p. 441). Matching demand and supply, firms' distribution system must at all times ensure product availability and a timely and reliable delivery (Christopher 2004). In order to deliver upon this promise, inventory management is a critical task. Firms hold certain stock levels to provide a product variety that caters for the customers' needs and to cope with change and uncertainty in supply and demand (Rumyantsev & Netessine 2007, Silver et al. 1998, Stevenson & Spring 2009 p. 955). This enables them to maintain fill rates that meet the targeted service levels especially because product unavailability creates the risk of disappointed or even disloyal customers and lost long-term sales (Cachon & Olivares 2010, Dubelaar et al. 2001 p. 97, Kiff 1997 p. 236). Rumyantsev & Netessine (2007 p. 409) presented empirical evidence that the right level of inventory holding becomes more critical with increasing costs of lost sales, i.e., growing product margins, and it prevents disappointing customers. This is important because customers have become more impatient and reluctant to accept long delivery

times (Bower & Hout 1988, Stalk 1988). In times of lean thinking, however, inventory holding has also become a controversially discussed topic due to the costs of tied-capital, the risk of stock aging and the costs of sales at large discounts or price protection measures to manage the stock levels (DeLeeuw et al. 2011 p. 436, Hendricks & Singhal 2009 p. 511). From this perspective, researchers have viewed low inventory levels as an indicator of firms' process capabilities and a signal of an effective management approach that protects the firm's pricing power (Hendricks & Singhal 2009 p. 511, Lieberman & Demeester 1999).

In reality, marketers and distribution managers are often challenged by piling up inventories when additional goods are pushed into their distribution system to ensure a full capacity utilization of the manufacturers' plants (DeLeeuw et al. 2011 p. 436). As a consequence, the firms in the distribution system face an imbalance between supply and demand (DeLeeuw et al. 2011, Hendricks & Singhal 2009 p. 509). Hendricks & Singhal (2009 p. 509) have empirically shown that this mismatch of supply and demand, measured as firms' announcements of over- or understocking, had negative firm value implications. The researchers argued that inventory levels convey firms' strategic choices about how to approach the market and the customers. There is also empirical evidence that abnormally high inventory levels result in abnormally poor long term stock returns while low inventory levels are associated with ordinary returns (Chen et al. 2005). Lai (2006b p. 2) found empirical support that a low inventory holding signals management competence to the market thus resulting in higher short-term stock market returns. These positive performance findings for low inventory firms in research publications might be misleading for two reasons. Firstly, most researchers focused on work-in-progress stock levels rather than finished goods inventory levels downstream in the distribution system which have mainly been neglected in research (Chen et al. 2005, Rajagopalan & Malhotra 2001). Secondly, these papers have addressed short-term performance implications that may not have captured potential negative consequences of customer disappointing stock levels. While overstocking has been argued to be an indicator for the lack of flexibility and agility of the distribution system to deal with changing situations (Hendricks & Singhal 2009 p. 511), we argue that this also holds for understocking as it conveys that the distribution managers have been unable to hold customer-pleasing stock levels. Given that both inappropriately high or low inventory levels can have repercussions on the firms' market activity, we suggest that successful firms must be able to manage their distribution system flexibly. For us, the main issue is that managers need to be flexible in their decisions on inventory levels which means that they must balance the costs of having too little inventories, i.e., the risk of lost sales and the costs of holding too high inventory levels (Lai 2006b p. 2). We define distribution chain flexibility as the ability of the firm to keep the stock levels throughout the distribution chain in balance over time to remain viable during unexpected changes such as production delays, manufacturers pushing additional production-induced volume into the distribution system or changing market conditions. This implies fluctuating stock levels over time to match the stock holdings to the

given market demand. Firms that are able to manage their distribution chain flexibly are able to cope with unexpected demand-supply mismatches while acting within the principles of lean management. Whereas several researchers have examined the relationship between inventory levels in the supply chain and its performance implications (Chen et al. 2005, Hendricks & Singhal 2005, Lai 2006a, Thomas & Zhang 2002) we find it surprising that studies have not observed the mechanisms of creating flexibility in the distribution chain to manage stock levels both in a customer-pleasing and cost-efficient manner.

6.3. Flexibility and the Value of the Customer Base

For the marketing discipline to have a right to exist, the activities that deliver value to customers must also contribute performance outcomes to the firm (Day & Fahey 1988). In order to do so, the market-based activities must be closely aligned to the overall strategy of the firm (Day 1994, Narver & Slater 1990, Vorhies et al. 1999 p. 1172). If the business strategy requires elements of flexibility, this means that the respective marketing activities must also be inherently flexible. Flexible firms have been said to achieve better current and anticipated future ends and are able to provide appreciably superior customer value propositions (Evans 1991 p. 73, Johnson et al. 2003). Flexible firms have also been argued to generate more desirable changes in performance, i.e., higher increases or lower decreases while moving to new positions (Groote 1994 p. 933-934, Marschak & Nelson 1962). For researchers the analysis of the relationship between flexibility and performance is critical because flexibility comes at a cost (Golden & Powell 2000, Slack 1987, Upton 1994). By definition, flexible firms must be able to rapidly move without incurring excessive costs, organizational disruptions or performance losses. Several researchers proposed a positive relationship between flexibility and performance (e.g., Evans 1991, Fiegenbaum & Karnani 1991, Gatignon & Xuerb 1997, McKee et al. 1989, Shimizu & Hitt 2004, Slack 1988, Suarez et al. 1995, Swamidass & Newell 1987). With regard to the performance implications of marketing and market-related functions, researchers have also presented conceptual papers linking market-based assets or capabilities to performance outcomes (Day & Wensley 1988, Day 1994, Slotegraaf et al. 2003, Slotegraaf & Dickson 2004, Srivastava et al. 2001 p. 788, Vorhies & Morgan 2005, Walker & Ruekert 1987). The empirical findings of these flexibility and marketing performance outcomes were mixed. Johnson et al. (2003) and Pagell & Krause (2004) criticized the widespread assumption of a positive relationship between operational flexibility and performance because these generalized performance considerations abstract away from the situation. Flexibility may not be beneficial in all settings so researchers have suggested moderated models which capture the situational influences and effects (e.g., Anand & Ward 2004, Nadkarni & Narayanan 2007, Pagell & Krause 2004, Suarez et al. 1991, Verdú-Jover et al. 2005). In addition, previous research has mainly relied on short-term performance measures such as sales volume, turnover, return on sales, profit and growth despite evidence that short-term outcome targets may misdirect business decisions, compromise the firms' long-term value creation and jeopardize the marketing return on investment (Gupta

2009 p. 169, Jedidi et al. 1999, Mela et al. 1997, Yoo & Hanssens 2005). Moreover, these measures capture the value stream of the intangible assets created by flexible marketing activities only partly (Bauer & Hammerschmidt 2005 p. 332). Johnson et al. (2003) considered the creation of flexibility as an investment for which the firm may forgo its short-term earning potential in favor of its long-run performance considerations. Bauer & Hammerschmidt (2005 p. 333) suggested a long-term value creation perspective when considering marketing activities and investments into marketing-based flexibility. In fact, there is a gap in research that links flexibility decisions to higher level long-term customer base value metrics. There is evidence that what a firm does, i.e., its marketing actions, affects the customers' mindsets and behaviors and thus the value that the firm creates over the lifetime relationship with its customers (Berger et al. 2006 p. 159, Gupta et al. 2006 p. 140). This also implies that the firms' inability to take action due to a lack of flexibility may harm its value creation. For marketing purposes, Hammerschmidt & Bauer (2005 p. 332) therefore suggested to measure the long-term value of customers based on a customer lifetime (CLV) or even by means of a customer equity (CE) calculus as a more stable and relevant metric. CLV is the present value of the current and projected future revenues less the costs incurred by the firm during the exchange relationship with an individual customer (Bitran & Mondschein 1996, Dwyer 1989, Gelbrich & Nakhaeizadeh 2000 p. 154, Gupta 2009 p. 171, Jackson 1994). CE is defined as the total of the discounted lifetime values summed over all of the firm's customers (Bayón et al. 2002, Berger & Bechwati 2001, Blattberg & Deighton 1996, Gupta et al. 2006 p. 139, Rust et al. 2000). CE captures the customer relationship value (Gupta et al. 2006, Rust et al. 2000). We argue that flexibility research in marketing and market-based functions may deliver more meaningful results when the value implications for the firms' customer base i.e., its 'combined lifetime values of all current and future customers' (Bauer & Hammerschmidt 2005 p. 332) are considered in the performance appraisal. This is especially true given the empirical evidence that customer equity can be a reasonably good approximation of firm and shareholder value (Bauer & Hammerschmidt 2005, Berger et al. 2006, Gupta et al. 2004, Kim et al. 1995, Rust et al. 2004a, Wiesel & Skiera 2005, Wiesel et al. 2008). It also fits into our conceptualization of the flexibility creation regarded as a dynamic capability. Nevertheless, a long-term value model conceptualization must ensure that dynamic capabilities are not related to immediate performance outcomes because they are, per se, not valuable in the short-run but unfold their value potential over time when being deployed on other capabilities (Helfat et al. 2007). Our long-term value perspective accounts for this. We fill the gap in research and investigate the relationship between the four most important flexibility types in marketing, sales and distribution functions that we presented above and their long-term implications for the customer-based firm value. We define the customer-equity based residual value of the firm's customer base as the total of the discounted residual value streams summed over all customers of the firm during a prespecified period.

6.4. Overall Conceptual Model Framework and Hypotheses

Gerwin (1993 p. 398) argued that responsive firms are able to coordinate, integrate and switch between different types of flexibility. Similarly, Ahmed et al. (1996 p. 569) argued that it is not enough to individually optimize the functional resources as single entities. Instead, the researchers called for a holistic optimization on the firm level to achieve overall flexibility rather than only resource or functional flexibility. Vokurka & O'Leary-Kelly (2000 p. 499) criticized research for its poor understanding of the potential trade-offs and synergies within the overall concept of flexibility. In fact, top managers face the challenge of balancing the right combination of different flexibility types (Dreyer & Grønhaug 2004 p. 492). From the holistic perspective, flexibility can be understood as the sum of the functional flexibility capabilities that the firm possesses to adapt to or initiate change. An examination of the interrelated nature of flexibility is especially critical for the top management given Slack's (2005) case-study observations that lower level managers are more likely to focus on the individual resource flexibility rather than on the firms' overall flexibility level. Slack (2005 p. 1198) linked firm performance to flexibility decisions to gain an understanding of the role that flexibility plays for the overall strategy. For him, flexibility should be observed on the resource level which influences the tasks that have to be managed (e.g., product, mix, volume or delivery flexibility). This, in turn, impacts on the functional level (availability, productivity, dependability) and finally, these different functional flexibilities relate to the firm's overall competitive performance (Slack 2005 p. 1198). These findings lead to the assumption that different types of flexibility may, in turn, vary with regard to their long-term value implications (Oktemgil & Greenly 1997). It follows that firms that wish to be effective must recognize and accept the existence of different flexibility types and must manage them appropriately (Nadler & Shaw 1995 p.13). Given budget constraints, managers must gain an understanding of the flexibility types that matter in different situations. Researchers can support this by providing research insights for resource allocation prioritizing decisions. They must identify the main performance drivers of the flexibility mix. Above, we identified four important inter- and intra-organizational elements of the firms' flexibility mix: 1.) financial, 2.) human resource, 3.) service supply chain and 4.) distribution chain flexibility. In general, we expect positive relationships between these flexibility types and customer equity-based performance outcomes. This is because flexibility allows firms to be adaptable and capable of change to rapidly respond to or initiate a wide range of situations and demands to satisfy the market expectations. Nevertheless, marketing, sales and distribution functions operate at the front line of the market and encounter all kinds of internal and external circumstances that could influence their demand for flexibility. Managers should not ignore these circumstances when making strategic choices on flexibility. Researchers have therefore conceptualized the strategy-performance link as a moderated relationship to capture the situational aspects (e.g., Grewal & Tansuhaj 2001, Jaworski & Kohli 1993). Thus, we observe the performance implications of the four flexibility types and the degree of strategic alignment based on three contingency factors, i.e., market-focus as an internal

characteristic and environmental uncertainty and competitive intensity as a reflection of two external contingencies. Figure 9 shows the conceptual model.

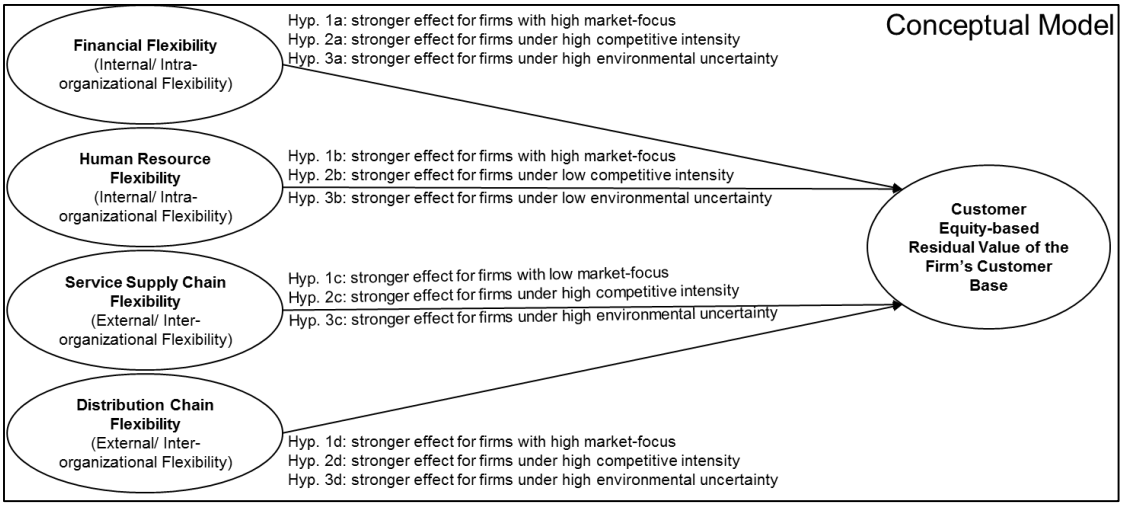

Figure 9: Conceptual model (study III)

Firstly, we were interested in the impact of the firm characteristics on the effectiveness of the selected flexibility combinations. We hypothesize about a flexibility-firm-value link under different degrees of firms' market-focus. More specifically, we investigate this relationship in a high-versus-low market-focus scenario. Firms that aim to understand the needs and wants of the market to deliver superior value propositions need a strong external orientation towards customers, competitors and the market developments (Johnson et al. 2003). We call firms that are endued with this characteristic market-focused. Resources, capabilities and processes in market-focused firms are guided by market needs in order to the satisfy market expectations and to create value in the market place (Hooley et al. 2001 p. 1, Johnson et al. 2003). Market-focused firms frequently engage in exchanges with the market and show great commitment in serving the customers. Their actions are driven by the spirit of increasing value for the customers (Hooley et al. 2005). These firms dedicate their attention to current and future customers, competitors and other market players and observe general developments in their task environment. A well-developed market-focus helps firms to identify changing requirements and to define the need for realignment. Nevertheless, this does not imply that this characteristic also enables them to act upon unexpectedly changing market requirements. This is where flexibility comes into play.

Firms with financial flexibility keep cash in sufficient amounts and hold it at the right time. For them, a pronounced market-focus can be valuable because it ensures that the rapid actions which they are able to initiate are also based upon the latest market knowledge. This also ensures that their actions are not only quick but also well-directed. Firms' rapid reallocation of cash positions to seize opportunities or avert threats will be guided by the most recent market insights and an in-depth knowledge about customers and competitors. We therefore expect that in the event of sudden unexpected changes

financially flexible firms with a well-developed market-focus will be both able to identify their need for adjustments and able to rapidly act upon this new information. We hypothesize that firms with a greater market-focus can make more effective use of their financial flexibility. This will be appreciated by customers and will be value generating for the firm. Thus, the benefits of firms' greater market-focus will manifest in a more positive relationship between financial flexibility and the customer equity-based residual value of the firm's customer base.

Hyp. 1a: *The effect of financial flexibility (internal flexibility) on the customer equity-based value of the firm's customer base will be stronger for firms with a high market-focus than for firms with a low market-focus.*

Firms that possess the managerial capability to rapidly coordinate, re-allocate and re-deploy human resources have been said to benefit from greater performance (e.g., Descombre et al. 2006, Slotegraaf & Dickson 2004). Although not empirically tested so far, we argue that a positive relationship between HR flexibility and performance may especially be true for a customer equity-based performance variable. This is because the customer equity-based residual value of the customer base captures the medium- and long-term effects of human resource reallocation practices which do not immediately become visible. Based on this, we suggest that the firms' ability to quickly allocate people to the right places will be positively influenced by their degree of market-focus. The more market-focused firms possess a broad market knowledge and their business processes are guided by the needs and wants of the market. They can therefore be expected to find it easier to sense changing requirements, select the areas where the demand for labor temporary exceeds the actual supply and to quickly re-allocate their employees from these underemployed areas to the relevant tasks. We believe that they will also be more effective in reversing such resource commitments because they have a keen sense of the market developments that would make such HR commitments obsolete. Consistently, we propose a more positive relationship between HR flexibility and the customer equity-based residual value for firms with a more pronounced market-focus.

Hyp. 1b: *The effect of human resource flexibility (internal flexibility) on the customer equity-based residual value of the firm's customer base will be stronger for firms with a high market-focus than for firms with a low market-focus.*

Above, we hypothesized about the two internal flexibility types. We will now consider service supply chain flexibility which is a flexibility type that is created at the firms' borders, i.e., through the inter-organizational relationship between the firm and its service providers. Firms could deal with unexpected variations from their originally planned capacity utilization level by drawing on inter-organizational ties in order to initiate, extend or cut back on services of external providers in the service supply chain. This could be especially interesting for the market linking activities in marketing, sales and distribution

functions because customers are extremely sensitive to failures and shortfalls in these areas (e.g., Bitner 1990). In general, this would suggest a positive relationship between service supply chain flexibility and the customer equity-based residual value because firms could draw on third party providers in times of capacity shortages. The real value driving functions of marketing, sales and service functions are the customer-touching services that are exposed to considerable market contact and that link the firm to the market by establishing valuable market exchanges. Considering the flexibility potential of outsourcing activities such as sales functions, communication, advertising, branding, product and service management, pricing and customer services would change the picture of the positive relationship when taking firms' market focus into account. These are the activities that shape the value perceptions of the customers and contribute considerably to the customer equity-based residual value of the firm's customer base. For this reason, we argue that a high market focus of the outsourcing firm may not be beneficial as the service itself would be carried out by third parties. Firms with a pronounced market focus must rather be assumed to hesitate to assign these critical tasks to third parties due to quality concerns. Moreover, a more pronounced market-focus may drag on the service provider selection process because the more market focused firms will ensure the fulfillment of their high quality expectations. This would negatively affect their flexibility because the service provider selection and surveillance process would be too time consuming. With regard to service supply chain flexibility, it follows that a pronounced market focus would be a costly but ineffective firm characteristic. The inter-organizational creation of flexibility would therefore not be beneficial with regard to the long-term value of the firm. We therefore propose a negative impact of a greater market focus on the relationship between service supply chain flexibility and the customer equity-based residual value of the firm's customer base because the services received would not meet the high quality expectations. Firms with a lower market-focus, in contrast, would be more likely to benefit when relying on service supply chain flexibility due to their less pronounced market quality concerns.

Hyp. 1c: *The effect of service supply chain flexibility (external flexibility) on the customer equity-based residual value of the firm's customer base will be stronger for firms with a low market-focus than for firms with a high market-focus.*

Lastly, we hypothesize about the moderating effect of firms' market-focus on the relationship between distribution chain flexibility and the customer equity-based residual value. Although the flexibility creation is also external in nature, the just discussed logic does not apply for distribution chain flexibility. Firms make boundary decisions for their distribution chain flexibility to deal with the uncertainties of supply and demand. Distribution chain flexibility is an inter-organizational type of flexibility because it involves suppliers and customers. Flexible firms are able to balance over- and understocking situations without disappointing customers or incurring lost sales. This requires a sophisticated management to align the suppliers and customers. Although external in nature, we

suggest that the coordination activities of these external parties in the distribution chain may benefit from a firm's well developed market-focus. This is because firms with a strong market-focus possess comprehensive knowledge about customer preferences. Their close relationship to the market allows them to sense weak signals and emerging changes extremely early. Coupled with the ability of the firm to keep the stock levels throughout the distribution chain in balance over time by closely communicating with the involved parties, a firm's market-focus should pay off by increasing its customer equity-based residual value because it promises an even closer alignment. We therefore suggest that the positive relationship between distribution chain flexibility and the customer equity-based residual value of the firm's customer base will be stronger for firms with a greater level of market-focus.

Hyp. 1d: *The effect of distribution chain flexibility (external flexibility) on the customer equity-base residual value of the firm's customer base will be stronger for firms with a high market-focus than for firms with a low market-focus.*

Next, we observe the effects of environmental contingency factors because firms do not operate in a vacuum (Donaldson 2001). We start with an analysis of high versus low competitive intensity. Competitive intensity describes a situation of fierce competition which is determined by 'the number of competitors in the market and the lack of potential opportunities for further growth' (Auh & Menguc 2005 p. 1654). The level of competition is high in markets where numerous market players compete for market share (Cui et al. 2005). Competitive intensity is challenging because the behavior of the market participants is influenced by the frequent actions and counteractions of their competitors (Auh & Menguc 2005). Because the number of competitive moves and counteractions tends to be intensive, these market conditions necessitate that firms have the freedom to act in order to avoid lapsing into destructive price or promotional wars. Firms have to develop new ways to compete and explore novel ways to differentiate because customers can select from a variety of alternative offers (Kohli & Jaworski 1990, Zahra 1993 p. 324). In order to handle this, firms need to be flexible and adopt new resource reallocation patterns that enable them to act and react immediately.

Financial flexibility is one of the most immediate types of flexibility because financial resources are uncommitted and have not been absorbed by the firm's structures (Bourgeois & Singh 1983, Singh 1986). Firms can immediately deploy them to avert threats or seize opportunities without re-transformation efforts. This feature of financial flexibility is particularly valuable in highly competitive environments where existing players attack and new competitors enter the market without prior warning. We argue that financially flexible firms are advantaged because they can outpace their competitors by having sufficient room to maneuver quickly. In the long-run, potential monetary disadvantages of holding uncommitted resources would be offset by the additional customer value created by financially flexible firms. We propose a more positive relationship between financial

flexibility and the customer equity-based residual value for firms that operate in highly competitive environments because these conditions call for immediate resource reallocation capabilities and quick actions and the benefits of financial flexibility could immediately pay-off in these situations.

Hyp. 2a: *The effect of financial flexibility (internal flexibility) on the customer equity-based residual value of the firm's customer base will be stronger for firms in environments with high competitive intensity than for firms operating under low competitive intensity.*

In contrast to liquid resources, human resources are more closely tied to the existing tasks (Mishina et al. 2004 p. 1183). Firms need to coordinate, re-allocate and redeploy their employees to the new tasks which implies that there could be gaps between the strategic decision-making and the effective redeployment of the employees. While we strongly recommend that it is possible to assign human resources to new tasks to earn the benefits of flexibility, we are also aware that greater efforts are required to allocate people from the underemployed areas to the tasks in need than for financial resources. This is slightly more time consuming. In competitive environments, however, competitors can be expected to look for and capitalize on this time offset before the firm is able to make full use of its re-allocated resources. We therefore propose that the value contribution of HR flexibility will not fully unfold quickly enough in highly competitive environments.

Hyp. 2b: *The effect of human resource flexibility (internal flexibility) on the customer equity-based residual value of the firm's customer base will be stronger for firms in environments with low competitive intensity than for firms operating under high competitive intensity.*

We presented outsourcing as a set of timely and rapid reallocation decisions to external service providers. Firms with service supply chain flexibility have installed elaborate processes to quickly activate their inter-organizational ties to initiate, extend or cut back on services of external providers in their service supply chain. Outsourcing has been argued to be a source of creating flexibility to manage market fluctuations and customers' expectations (Gilley & Rasheed 2000, Harrison 1994, Hendry 1995, Quélin & Duhamel 2003, Wasner 1999). This is especially important in conditions of high competitive intensity because firms that intend to win and maintain customer relationships cannot afford to put their customer-based assets at risk by being outstripped by competitors. In the challenging conditions of high competitive intensity it would be too risky for them to accommodate change solely internally (Abraham & Taylor 1993). Rather, firms must actively manage their customer-based assets and they can do so by outsourcing certain functions. This is because most service-based activities cannot be rescheduled to off-peak hours without signaling vulnerability to competitors and disappointing waiting times for cus-

tomers. We propose that firms can handle unexpected competitive imbalances by externally acquiring activities. We believe that potential quality concerns will be knocked-out by the time-based competition in environments of high competitive intensity. We therefore expect the relationship between service supply chain flexibility and the customer equity-based residual value to turn out more positively for firms that are operating under highly competitive conditions because they can make even more use of the flexibility potential which is inherent in external resource allocation decisions.

Hyp. 2c: *The effect of service supply chain flexibility (external flexibility) on the customer equity-based residual value of the firm's customer base will be stronger for firms in environments with high competitive intensity than for firms operating under low competitive intensity.*

Environments with high competitive intensity can be challenging for firms because market players are continuously willing to gain market share from their rivals. In addition, discerning customers expect a broad variety of products to select from so the firms cannot bear the risk of too low inventory levels. At the same time, too great inventory levels would make inventory holding prohibitively expensive so the firm would lose out in terms of its cost competitiveness. In competitive environments, firms are required to settle the deal immediately by offering products and services that meet or exceed the customers' expectations because waiting out bears the risk of losing sales, or even worse, the entire customer relationship to other competitors. Competitive environments therefore call for distribution chain flexibility. Flexible firms have room for strategic market actions to challenge competitors because their stock provides them with products that satisfy the customers' needs and wants but at the same time their stock level does not burden the firm. Accordingly, we expect the relationship between distribution chain flexibility and the customer equity-based residual value of the firm's customer base to be more positive for firms that operate in more competitive environments.

Hyp. 2d: *The effect of distribution chain flexibility (external flexibility) on the customer equity-based residual value of the firm's customer base will be stronger for firms in environments with high competitive intensity than for firms operating under low competitive intensity.*

Environmental volatility is characterized by a high but rather regular level of demand fluctuations. Beyond this, there are environmental events that cannot be foreseen at all. Turbulent environments suffer from both volatility and unpredictability and this is what causes managers' environmental uncertainty. It describes the joint influence of environmental unpredictability and volatility (e.g., Anand & Ward 2004, Bourgeois & Eisenhardt 1988, Lawrence & Lorsch 1973, Miles et al. 1974, Miller & Friesen 1983, Milliken 1987, Pfeffer & Salancik 1978, Volberda 1998). Macro environmental effects rapidly trickle down to the demand level especially in the durable consumer goods industry where they

arise as changes in the volume and product mix demand (Reichhart & Holweg 2007). These fluctuations in demand constitute the major element of uncertainty in marketing, sales and distribution functions (Davis 1993, Fisher et al. 1994, Griffiths & Margetts 2000, Harrison 1996, Krajewski et al. 2005). Researchers have stressed that environmental turbulence can easily outpace current market strategies (Eichengreen & Bayoumi 1999, Heide & Weiss 1995, Johnson et al. 2003, Rana 2007). The absence of information about the nature, impact and severity of future developments creates uncertainty that, in turn, has been argued to be one of the main triggers for flexibility calls (Davis 1993, Reichhart & Holweg 2007). As a result, these environments require that firms' resources are inherently flexible and that they are managed flexibly. We focus on changes in the customer preferences and demand fluctuations when observing the effects of environmental uncertainty. Fluctuations and unforeseen swings in demand create difficulties in the planning, coordination and implementation of marketing strategies (Heide & Weiss 1995). It becomes challenging for firms to manage the quantity and the timing of their cash in- and outflows (Koornhof 1998).

Financially flexible firms are able to rapidly act or react when customer needs and wants change. While these firms do not necessarily have greater financial strength, they have the capability to effectively coordinate their financial flows in such a way that they have the financial resources at hand when the need for them arises. The financial processes that they have installed allow for strategic actions that stimulate customer loyalty and long-term customer value creation rather than initiating plain sales discounts. This is because these firms have the capacity to rapidly install financial processes that are beyond the standard conduct. The desired effects of financial flexibility are quickly activated so we expect that the relationship between financial flexibility and the customer equity-based residual value will be more positive for firms that are operating under high environmental uncertainty.

Hyp. 3a: *The effect of financial flexibility (internal flexibility) on the customer equity-based residual value of the firm's customer base will be stronger for firms in environments with high uncertainty than for firms operating under low uncertainty.*

Turbulently changing environments make it difficult for firms to continuously meet or exceed the needs and wants of the customers because the current services are rapidly outdated by unexpected demand developments. Human resources have been said to be a good source of flexibility because human beings can draw on skills and behaviors that are inherently flexible (Kerr & Jackofsky 1989, Lengnick-Hall & Lengnick-Hall 1988, Milliman et al. 1991). This flexibility potential of individuals has often been linked to favorable performance implications. There is empirical evidence, for instance, that HR flexibility mediates the effect of environmental dynamism on firms' performance (Ketkar & Sett 2010 p. 1173). We do not contest these findings. Our focus, however, is on the flexibility of the HR practices which constitute the separate pillar of Wright & Snell's (1998)

HR flexibility conceptualization besides the two aspects of human skills and human behaviors. We propose that the effectiveness of flexible firms' HR reallocation and redeployment practices may not be as immediately effective as the uncertain environment may actually call for. This is because in uncertain environments newly re-allocated employees face both the drawback of missing routines for their new tasks and the challenges of the turbulence. These conditions ask for employees who are experienced in the job's general tasks to have the capacity to focus on the challenges caused by the environmental uncertainty. Whereas the potential of human resource skills and behaviors can be accessed as timely as financial resources, the resource reallocation of employees to novel tasks is a more time consuming operation under environmental uncertainty. The employees can be assumed to take some time to become fully effective after being re-allocated. Thus, they can contribute to the customer value creation only with a certain time offset. In the meantime, however, competitors may take the chance and win customers by drawing on more immediate forms of flexibility. An improvement in the flexibility of HR practices would, however, require firms' additional efforts and this would distract managers from their main fields of action. This would bear the risk of disappointed or even lost customers which, in turn, could negatively affect the long-term residual value of their firm's customer base. Therefore, we do not recommend the investment in HR practices to create flexibility under environmental uncertainty. We suggest that the relationship between HR flexibility and the customer equity-based residual value will be less positive for firms in more uncertain environments because the expected outcomes do not justify the necessary effort.

Hyp. 3b: *The effect of human resource flexibility (internal flexibility) on the customer equity-based residual value of the firm's customer base will be stronger for firms in environments with low uncertainty than for firms operating under high uncertainty.*

A good share of the activities in the marketing, sales and distribution functions is service-based. Environmental turbulence causes uncertainty with regard to the intensity, nature, scope and timeliness of the business services that customers will ask for. Uncertain environments are especially dangerous for firms that cannot keep up with the speed of the external change because firms must strive to outpace others in order to remain competitive. During turbulent times, however, internal employees may reach their capacity limits and may thus not be able to satisfactorily provide for the full range of services. It thus becomes challenging for firms to manage the fluctuations in demand and synchronize the service supply and demand because their unused capacity cannot be claimed and the services themselves cannot be inventoried (Zeithaml et al. 1985). For firms, this is critical because customers have been said to be extremely sensitive to service failures (e.g., Bitner 1990). Abraham & Taylor (1993) argued that unpredictable and volatile environments cause uneven work flows and this makes it risky to accommodate change solely internally. Firms which draw on flexibility in their service supply chain processes are able to activate and effectively coordinate their inter-organizational ties in a timely manner. They

can bridge temporary capacity limits by using external service providers as a source of ‘on-demand’ access to the capabilities of intermediate markets (Holcomb & Hitt 2007 p. 472). Firms which are able to manage their relationships with external service providers in this way have been found to enhance their responsiveness to the customer needs (Bailey et al. 2002 p. 84, Cánez et al. 2000, Gilley & Rasheed 2000, Quinn & Hilmer 1994). There is also evidence that the benefits of outsourcing are greater in dynamic environments (Gilley & Rasheed 2000 p. 771, Gilley et al. 2004 p. 121). While uncertain environments harbor certain risks, they also pave the way for opportunities for firms that take them before competitors are able to do so. Drawing on service providers for certain functions shifts some of the firms’ own environmental uncertainty to third parties. We argue that this would be beneficial for firms that are able to flexibly manage their portfolio of external service providers to accommodate the unfavorable effects of highly turbulent markets. Therefore, we propose that the relationship between service supply chain flexibility and the customer equity-based residual value will be more positive for firms under greater environmental uncertainty.

Hyp. 3c: *The effect of service supply chain flexibility (external flexibility) on the customer equity-based residual value of the firm’s customer base will be stronger for firms in environments with high uncertainty than for firms operating under low uncertainty.*

Firms need to have effective distribution chain and inventory management practices in place. In uncertain environments, these management practices must be highly flexible because demand changes are unpredictable which renders their long-term distribution plans obsolete. A temporary product unavailability, however, would create the risk of disappointed or even disloyal customers and lost sales while overstocking would bear the risk of paralyzing the firm with clearance sale (Cachon & Olivares 2010, Dubelaar et al. 2001 p. 97, Kiff 1997 p. 236). Both situations, over- and understocking, deter firms from catering to the changing customer needs. Firms that are able to keep the stock levels throughout the distribution chain in balance, i.e., the flexible ones, can attract current and new customers because they are able to offer products that match the rapidly changing consumer preferences. The more inflexible competitors, by contrast, are forced to deal with stock-outs or over-aged stock levels during uncertain environmental conditions. Flexibility only becomes possible for firms that actively manage their distribution chain relationships with suppliers and dealers. We suggest that distribution chain flexibility will have a more beneficial effect on the customer equity-based residual value for firms in more uncertain environments than for firms in rather calm environments.

Hyp. 3d: *The effect of distribution chain flexibility (external flexibility) on the customer equity-based residual value of the firm’s customer base will be stronger for firms in environments with high uncertainty than for firms with operating under low uncertainty.*

6.5. Methodology & Research Design

6.5.1. Context and Sample: Industry Setting

We selected marketing, sales and distribution business units of the automotive industry as a research object (in the following named local sales units or firms). They perfectly qualified for a flexibility-based research study for several reasons. As a durable consumer goods industry, the automotive oligopoly is characterized by high market pressures due to structural overcapacities, cut-throat competition, a high industry speed, aggressive marketing practices and profitability concerns (Diez 2006 p. 20). The industry is highly sensitive to competitive- and economic cycle-induced supply and demand fluctuations (Diez 2006 p. 20). Despite these challenges for the distribution system, previous research has mainly focused on automotive manufacturing and the buyer-supplier relationships with component suppliers in the upstream (Helper & Sako 1999, Liker & Wu 2000, Womack et al. 1990). Research has not spent due attention to the strategic importance of the vehicle distribution system and its role as a direct link to the market to sense and respond to the customer needs (DeLeeuw et al. 2011 p. 436, Holweg & Pil 2004, Kiff 1997 p. 226). Still, researchers have noted that the location of value-creation has moved further downstream and that the opportunities can now be found in the fields of local brand, service and after sales management where an important part of the market differentiation takes place (Kalmbach & Kleinhans 2004 p. 4ff). Hence, automotive manufacturers have installed marketing, sales and distribution business units directly in the local markets to take the lead over the critical value-adding activities such as brand management, targeting and segmentation and the positioning and differentiation (Kraus 2005 p. 95). The task of an active market management of these entities comprises sales planning activities, sales promotion, the exploitation of market potentials, vehicle distribution and stock keeping, customer care and all activities that aim to satisfy the customer needs (Dannenberg & Joas 2003 p. 507, Rosenbloom 2004 p. 42ff, Smend 2003 p. 120f). These market linking activities directly touch upon the customers' value perceptions and are directed towards the creation of strong ties between the customer and the brand to satisfy and retain customers (Throll & Rennhak 2009 p. 95). Given the challenging competitive environment and the highly demanding but price conscious customers who tend to switch brands due to the wide product choices and discount offers, managers of these units suffer from various uncertainties and may thus wish to create flexible firms to handle these challenges (Kiff 1997, Throll & Rennhak 2009 p. 71).

6.5.2. Data Collection

Having reviewed the relevant literature, we identified improvement potential for the predominant measurement approach based on managers' self-reported perceptions about their firms' flexibility, the prevailing environmental conditions and the firms' performance. Subjective measures have been said to be prone to bias (Johansson & Yip 1994). Moreover, abstract constructs such as flexibility do not lend themselves to perceptual measurement taking because respondents may have a different interpretation despite the provision of definitions. As a result, we opted for an advanced data collection approach.

We established close working relationships with our research objects by relocating one of our researchers to a manufacturer's headquarters for a few months. Sharing offices with the managers who were responsible for the governance of the local marketing, sales and distribution units, we could refrain from using defined questionnaire techniques and pre-structured interviews that have often been said to deliver biased results and are prone to desirable evaluations rather than actual assessments of the industry situation. Over the period of our research stay, we conducted numerous informal expert talks, had access to archival firm data and contacted the local business units for additional information required. We obtained objective data and further background information from specialist departments such as sales, marketing and finance in the headquarters. In summary, we collected data from 61 different brand business divisions in 18 countries, this consisted of eight responses from European business units, five data files from Pacific Asian divisions, one African and four responses from North, Central and South American units. This constituted a satisfactory response rate of 77.2%. The base year of our data was the financial year 2011. Based on our comprehensive literature review and the content analysis of previously applied subjective measures, we designed objective measures and discussed their appropriateness with the industry experts. Based on their feedback, we refined our measures to ensure that we measured what we intended to measure. We were confident that the resulting objective one-item measures captured the relevant meaning of the research concepts. We trust that our novel data collection approach provided us with valuable tacit knowledge and solid industry insights to evaluate the overall situation from a flexibility research point of view and that this resulted in valid measures.

6.5.3. Measurements

Table 26 provides an overview of the constructs, measures and data sources.

Financial Flexibility

We measured financial flexibility as the deviation of the firms' actual liquidity from the planned liquidity in million euros on a monthly basis for a period of 24 months (2010-2011). The planned liquidity level reflected the ideal level of the cash and cash equivalents that would be needed to run the business without frictions given the planned sales volume levels, product mix structure and capital expenditure. We expressed these deviations per unit's net turnover of the respective year to rule out firm size concerns. Across these 24 monthly liquidity deviations, we calculated the mean of the absolute deviation values to arrive at the final measure of financial flexibility. This measure captured the ability of the firm to deal with the divergences from the scheduled business plan, for instance, due to sudden unexpected events, without running out of cash. It shows the degree to which the firms were able to rapidly act upon changed conditions.

Human Resource Flexibility

HR flexibility was measured by calculating the absolute first differences of the staffing from 2010 to 2011 for each of the 66 key positions that we identified. For these, we reviewed the organizational charts and company handbooks which provided insights into the targeted business models. We also conducted several expert talks with the experienced managers. We summed the absolute values of these 66 first differences and stated them per employee multiplied by 100 to adjust for firm size effects. This measure indicated the ability of the firm to quickly re-allocate their human resources from the underemployed areas to tasks where there was demand for additional capacity. Thereby, the measure also constituted a proxy for the broadness of the employees' qualification level because greater human resource reallocation is only possible if the employees are multi-skilled. We ensured that the vast majority of these reallocation processes resulted from internal re-staffing rather than staff increases or reductions in the total number of the headcount.

Service Supply Chain Flexibility

Service supply chain flexibility is the ability of the firm to handle unexpected variations from the originally planned capacity utilization level by drawing on inter-organizational ties to initiate, extend or cut back on services of external providers in the service supply chain. We measured the firms' ability to adapt through external sources by dividing the total amount spent on outsourced services in 2010 and 2011 by the total level of employees at the end of both of these years. This established a ratio of the extent to which the firm engaged in activities with external service providers. We assumed that greater ratios provided firms with greater flexibility to maintain appropriate service levels at all times.

Distribution Chain Flexibility

Our measure of distribution chain flexibility captured the departure of each business unit's actual stock level from the ideal stock level plan on a monthly basis. The ideal stock level resulted from the multiplication of the ideal stock factor with the 3-months future sales plan. The ideal stock factor reflected the location-specific shipment-, transfer- and intermediate storage time and country-specific customer preferences. To capture the customer preferences, our ideal stock factors reflected the country-specific customer expectations and purchase habits (i.e., mainly customized orders at the plant level with waiting time versus mainly stock purchases with immediate availability). The firm-specific stock factors also reflected firm size aspects measured as sales volumes. The future 3-months sales plan was derived from the firms' total market estimates and the business units' market-share targets. We calculated the value of the deviations across a 24 month period (2010-2011) and stated each deviation in absolute values.

In the last step, we calculated the mean of these 24 absolute values to arrive at the measure of distribution chain flexibility. This measure captured the ability of the firm to keep the stock level throughout the distribution chain in balance to remain viable during unexpected changes such as production delay, manufacturers pushing additional production-

induced volume into the distribution system or changed market conditions. Compared to the prescriptive inventory models which are typically used in distribution research (Rumyantsev & Netessine 2007 p. 414), our measure incorporated important market elements of the individual firms and therefore constituted an advancement compared to the traditional inventory approaches.

Construct	Definition	Measures	Data Source
Independent Variables:			
Financial Flexibility	Ability of organizations to raise or invest cash in sufficient amounts at the correct time and in the correct amount to balance expected and unexpected cash surpluses or shortages caused by future events (Koornhof 1998).	Net liquidity (average of the monthly deviations from the monthly budget plan).	- monthly financial reports of the business units
HR Flexibility	Ability to quickly reallocate their employees from underemployed areas to tasks where the demand for labor is higher and the ability to reverse such allocation decisions if the need arises.	Absolute values of the first differences in the reported number of employees for each business function of the business units between 2011 and 2010, adjusted by the total number of employees for the business unit in 2011 to correct for size effects.	- standardized headcount reports completed by each business unit
Service Supply Chain Flexibility	Ability of the firm to handle unexpected variations from the originally planned capacity utilization level by drawing on inter-organizational ties to initiate, extend or cut back on services of external providers in the service supply chain.	Total amount of services obtained from third party service providers in mio. euros, stated per employee to adjust for size effects.	- annual extended financial reports of the business units
Distribution Chain Flexibility	Ability of the firm to keep the stock level throughout the distribution chain in balance over time to remain viable during times of unexpected changes.	First differences of the monthly ideal stock versus the actual stock levels on a wholesale and retail level.	- stock level reports of the business units
Dependent Variable:			
Customer Equity-based Residual Value of the Firm's Customer Base	The total of the discounted residual value streams summed over all customers of the firm during a prespecified period.	Slightly adjusted customer equity calculation methodology based on Gupta (2009) and Bauer & Hammerschmidt (2005). Stated as customer equity per employee of the business unit.	- headquarters - evaluation of the industry managers
Moderator Variables:			
Market-focus	Ability to understand the needs and wants of the market to deliver superior value propositions drawing on a strong external orientation towards customers, competitors and market developments.	Average marketing expenses stated per net turnover for 2010 and 2011.	- annual extended financial reports of the business units
Competitive Intensity	Situation of fierce competition that is caused by a high number of competitors in the market and the lack of potential opportunities for further growth.	Four firm concentration index (C4), i.e., the strength of competition. Summing the market shares of the four largest market players.	- sales reports of the headquarters
Environmental Uncertainty	The combined effect of environmental unpredictability and volatility.	Multiplicatively combined composite measure of volatility and unpredictability. Volatility: 12 months total market vehicle sales in the specific country. Unpredictability: Time series approach of Berg & Lawless (1998), Dess & Beard (1984 p. 58), Keats & Hitt (1988) which captures the 24 months total market vehicle sales: monthly sales volume in t compared to the respective month in the prior year (t-1).	- sales reports of the headquarters
Control variables:			
Firm Size	The total size of the business unit.	Financial flexibility, HR-flexibility, customer equity: total number of employees in the business unit at the year end 2011. Service supply chain flexibility: Adjusted with the business units' turnover at the year end. Distribution chain flexibility is stated per unit sales volume.	- financial reports and standardized headcount reports provided by each business unit
Firm Age	The age of the business unit in years.	Measured as the number of years since the establishment of the business unit as a national sales company.	- information of the headquarters

Table 26: Summary of the constructs, measures and data sources (study III)

Market-focus

Firms need a strong external orientation towards their customers, competitors and the market developments to understand the customer needs and deliver superior value propositions to the market (Johnson et al. 2003). The extent to which they engage in market-linking activities to communicate with customers and other market players is reflected in their marketing budgets. We used the average ratio of marketing expenses per net turnover in million euros in 2010 and 2011 for each business unit to proxy for their customer-pleasing level of market-focus.

Competitive Intensity

We calculated the four firm concentration index (C4) for the year 2011 to measure the level of market intensity, i.e., the strength of competition each business unit faced. We summed the sales volumes of the four largest market players and divided the sum by the total market sales volume. High values indicated concentrated markets with only one or very few competitors that owned the bigger part of the market share while low values referred to fragmented structures where numerous market players competed for market share. Lower values of this indicator were an indicator of greater competitive intensity which manifested in promotional wars, price competition and several competitive moves that aimed to change the market's demand pattern (Grewal & Tanshuhaj 2001).

Environmental Uncertainty

In accordance with several researchers (e.g., Anand & Ward 2004, Bourgeois & Eisenhardt 1988, Lawrence & Lorsch 1973, Miles et al. 1974, Miller & Friesen 1983, Milliken 1987, Pfeffer & Salancik 1978, Volberda 1998), we perceived environmental uncertainty as the joined effect of environmental unpredictability and volatility. Based on the conclusions of our expert talks, our uncertainty measure rested on fluctuations in the demand level because this, in general, immediately provokes the need for flexibility in the distribution system.

We measured demand unpredictability based on Bergh & Lawless's (1998) approach (see also Dess & Beard 1984 p. 58, Keats & Hitt 1988). We drew on monthly total market sales volume data for 2010 and 2011 and applied a time series approach where time was the independent variable. We regressed the monthly demand data on the time variable:

$$\boldsymbol{\Delta Y_i = \beta_0 + \beta_1 * t + \varepsilon} \qquad (11)$$

where ΔY_i was the monthly change of the total market demand in t compared to the respective month in the previous year (t-1), t was the time (a time series variable created in SPSS 14.0) and ε denoted the residual term. Our unpredictability measure was the standard error of the β_1 time coefficient (i.e., the slope) multiplied by 1,000. It denoted the dispersion from the regression line, expressed by the standard error of the slope coeffi-

cient which reflected the unsystematic changes (Dess & Beard 1984 p. 58). We multiplicatively combined it with the volatility measure presented by Hull (1993). The volatility measure was based on the standard deviation of the relative changes of monthly total market demand during the financial year:

$$\boldsymbol{s} = \sqrt{\frac{1}{n}\sum_{i=1}^{n}(\boldsymbol{v_i} - \overline{\boldsymbol{v}})^2} \tag{12}$$

where v_i equaled:

$$\boldsymbol{v_i} = \mathbf{ln}\left(\frac{X_t}{X_{t-1}}\right) \tag{13}$$

and X_t and X_{t-1} denoted the total market demand during the given and previous month, respectively. We annualized the volatility measure and multiplied it with the unpredictability measure. Higher values of the resulting measure indicated increasing environmental uncertainty.

Customer Equity-based Residual Value of the Firm's Customer Base

Our measure of the customer equity-based residual value of the firm's customer base was derived from the customer-based firm valuation approach of Gupta (2009) and Bauer & Hammerschmidt (2005 p. 339). We refined their customer lifetime and customer equity calculus to measure the market-focused expected residual lifetime value of the business units' customer base. We chose 2011 as the base year for the initial period and used actual P&L data. 2015 constituted the termination year. This mirrored the strategic 5-year sales planning cycles commonly used in the automotive industry. We obtained comprehensive P&L forecast data for 2012 and volume and revenue plans for 2013-15 from the business units for each of the three main value generating product and service streams of the automobile industry (i.e., vehicles, parts and accessories business). The parts and accessories value streams constituted the after sales and cross-selling value element in our calculation (Kamakura et al. 1991). We aimed to create an overall valuation model of the firms' customer bases. Being concerned about measurement inaccuracy and approximated data of individual customer-level data, we opted for average but fine-grained and undistorted customer data recommended by Bauer & Hammerschmidt (2005 p. 334) and Mulhern (1999 p. 27). We assumed an unchanged cost structure for 2013-15 based on the historical 3-year average direct- and indirect-cost-to-net-turnover ratios of each business unit to extrapolate future average annual gross and net contribution margins for each value generating stream and each individual business unit and stated it per vehicle customer (Dwyer 1997, Gupta et al. 2001). We further assumed the costs of acquisition and retention to be approximately equal between actual and prospective customers and stated them as a per-customer-ratio (Dwyer 1989). After adjustments for depreciation, capital expenditure and changes in net working capital we arrived at the average free cash flows from the operative business per customer for each business unit. We were interested in the pure value of

the business units' efforts to manage their customer base and thus excluded cash flows from the non-operative business. Following the margin calculation shown in Table 27, we arrived at the average cash flow-based net contribution per customer for each value generating stream of each business unit for each year of the study period.

We combined this annual margin calculus per customer with the specific active customer base per year. In doing so, we took care of the purchase behavior of the actual customer base and the fact that not all of the originally acquired customers in 2011 remained fully active customers during the consideration period. We focused on the customer equity-based value resulting from management efforts in 2011 that eventually faded until 2015, in other words, the residual value. We disregarded additional sales and marketing efforts in subsequent years. Consistently, we included the business unit-specific customer loyalty rates but excluded customer acquisition rates caused by the units' sales and marketing activities in 2012 and beyond. We used the actual number of vehicles sold by the business unit during 2011 and assumed this to be the initial active customer base in the vehicle value stream. For the after sales and cross-selling value streams, we used the sum of the vehicle sales volumes during the six business years prior to 2011 to form the initial active customer base. These customers were likely to contact the dealer for accessories or workshop visits. Including the repurchase behaviors for each business unit's customers, we adjusted these total active customer bases by the frequencies of customers' repurchasing events during the projection period from 2012-15. We used industry average repurchase data for the sales and after sales business.

		2011 Actual 2012 Budget 2013-2015 Projection		
		Vehicle Business	**Parts Business**	**Accessories Business**
	Revenues per customer			
./.	Direct costs per customer - landed price - other direct costs			
=	**Gross contribution margin per customer**			
./.	Marketing costs for acquisition & retention per customer - general marketing expenses (media advertising, market research, CRM, etc.) - sales tacticals & sales incentives			
./.	Other fixed costs per customer (accounting, IT, etc.)			
+/./.	Other adjustments			
=	**Net contribution margin per customer**			
x	**Active customer base in the respective year** (see equation 8 and 9 for the calculus)			
=	**Revenue stream-specific net contribution margin**			
	Total net contribution margin			
+	Depreciation			
./.	Capital expenditure			
+/./.	Changes in working capital			
+/./.	Changes in other balance sheet assets			
=	**Operative free cash flow**			

Table 27: Margin and operative cash flow calculation (study III)

We also included a referral value that reflected the additional customers that had been acquired by means of the word-of-mouth recommendations of the customers that had been acquired in t_0 and applied it for the subsequent years from 2012-15 (Anderson 1998, Bauer & Hammerschmidt 2005 p. 334). We assumed that only 10% of the referred persons transferred into actual customers of the business unit which was consistent with the feedback of industry experts. We captured the customer retention and referral intention rates by drawing on the individual perceptive evaluations of managers in the manufacturers' headquarters who were responsible for the governance of the business units in the respective countries of our research objects. Given their market experience and business unit knowledge, we trusted that these perceptual data were reliable and valid. We assumed constant customer retention rates across the projection period (Bauer & Hammerschmidt 2005 p. 337) although the automotive industry context is non-contractual in nature. We did so because vehicle purchases are to a great extent brand-committed decisions. Our model assumed that the initially acquired customer base of t_0 (2011) declined annually by the disloyal customers and increased by the customers that were motivated by word of mouth advertising of the t_0 customers.

The formula for the active customer calculus was as follows:

$$\boldsymbol{AC_{t\,car_0} = V_{t\;car_0}} \tag{14}$$

$$\boldsymbol{AC_{t\,car_n} = AC_{t\,car_{n-1}} L_{t\,car_0} F_{t\,car_0} + AC_{t\,car_{n-1}}\, 0.1 * R_{t\,car_0}} \tag{15}$$

where $AC_{t\,car_0}$ was the size of the active customer base in the vehicle value stream in $t = 0$; $V_{t\;car_0}$ was the vehicle sales volume of the business unit in t_0; t_n denoted the specific year where n ranged from 1 (i.e., 2012) to 4 (i.e., 2015); $L_{t\,car_0}$ was the historic rate of loyal customers in percent and denoted the customers' probability to engage in repeated purchases; $F_{t\,car_0}$ was the historic frequency of repurchasing new vehicles stated in years and $R_{t\,car_0}$ was the recommendation intention rate.

Combining the active customer base and the contribution margin per customer per value stream, each for the respective financial year, we arrived at the units' customer equity-based value per year. We summed the values of the different value streams and discounted them to the present value of 2011. This number (EV_{t_0}) represented the expected equity value-based residual value of the firm's customer base generated by the management efforts in t_0.

$$\boldsymbol{EV_{t_0} = \sum_{t=0}^{T} \frac{M_{t_{car}} AC_{t_{car}}}{(1+i)^t} + \sum_{t=0}^{T} \frac{M_{t_{parts}} AC_{t_{parts}}}{(1+i)^t} + \sum_{t=0}^{T} \frac{M_{t_{accessory}} AC_{t_{accessory}}}{(1+i)^t}} \tag{16}$$

where t was the time index throughout the valuation period; T was the length of the valuation period (5 years); $M_{t_{car}}$ was the actual (t_0), budgeted (t_1) or predicted $(t_2\ to\ t_4)$ average contribution margin per customer for the vehicle value stream in period t (respectively for the parts and accessories value streams); $AC_{t_{car}}$ denoted the size of the active customer base in the vehicle value stream in t (respectively for the parts and accessories value streams) and i was the cost of capital set at a 9% discount rate. We adjusted for size effects in this customer equity-based firm valuation measure by expressing it as a per employee value of the business unit.

Control Variables: Firm Size and Firm Age

We incorporated firm size into the measures of the exogenous variables to directly adjust for these effects because the size differences among the business units were quite substantial in our sample. In addition to this, we controlled for firm age to ensure that our study would not be biased by the units' different age structures. The units' age ranged from 3 to 58 years. To control for age was especially important because the resource endowment of the business units may have changed during their lifetime. We ensured that our data sample did not include newly founded units with extremely limited resource endowments. Based on this, we did not expect significant age-induced disturbance effects in our model.

6.5.4. Construction of the Moderation Approach: Multi-Group Analysis

Our data set comprised cross-national data of firms that were operating in different environments and under diverse conditions. We attempted to examine the group-specific heterogeneity that could potentially have altered the direction and strength of the model paths between the exogenous and the endogenous model variables by means of a multi-group analysis for group moderation effects (Henseler et al. 2009, Henseler & Chin 2010, Henseler & Fassott 2010). We used firm characteristics and environmental circumstances as moderators. We created two sub-samples for each moderator variable based on a median-split technique. Based on this, we observed if the group-specific sample parameters of the two sample sets significantly differed across the two sub-groups. We used a parametric approach, more specifically, a modification of a two-independent-samples t-test (Chin 2000, Keil et al. 2000). Measurement invariance was not a concern in our study because we used single indicator-based formative measures. Following Chin (2000; see also Henseler et al. 2009, Keil et al. 2000), we calculated two separate structural equation models for each contingency variable and obtained bootstrap parameter estimates based on a non-parametric bootstrapping technique based on 1,000 subsamples with n=61 cases and individual sign changes (Chin 1998, Davison & Hinkley 2003, Henseler et al. 2009 p. 307, Tenenhaus et al. 2005). Given the parametric nature of the intended test for differences, the path coefficients estimated in PLS must have been normally distributed across all bootstrapping subsamples (Sarstedt et al. 2011). We visually observed the q-q-plots of the estimates, conducted a Shapiro-Wilk test and found the data to be sufficiently

normally distributed (Chin 2000, Sarstedt et al. 2011). Assuming approximately equal standard deviations across the groups, we calculated the group differences in the path estimates based on the following test statistic which followed a t-distribution with m+n-2 degrees of freedom (Chin 2000, Sarstedt et al. 2011):

$$\boldsymbol{t} = \frac{\boldsymbol{b_1 - b_2}}{\sqrt{\frac{(n_1-1)^2}{n_1+n_2-2} * (se_{b_1})^2 + \frac{(n_2-1)^2}{n_1+n_2-2} * (se_{b_2})^2} * \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}} \tag{17}$$

In this equation, b_x were the group-specific path coefficients, n_x indicated the subsample size for the two groups and se_{b_x} denoted the standard errors of the bootstrapping procedure.

6.5.5. Descriptive Statistics

Table 28 shows the descriptive statistics of our study data. The business units of our data set had an average turnover volume of 789 million euros. They were 29 years old and small to medium in size with 117 employees on average. We found greater mean values for financial and HR flexibility in the high market-focus subsamples but these differences were not significant. Firms with a higher market-focus had a lower customer equity-based residual value although this value was not significant. With respect to competitive intensity, we found significantly greater HR flexibility ($p < .05$) and distribution chain flexibility ($p < .10$) for firms operating under low competitive intensity. For environmental uncertainty, firms in highly uncertain environments had greater financial flexibility, service supply chain flexibility and greater customer equity but these differences in the mean values were insignificant. We also conducted a bivariate correlation analysis (see Table 29). In the pooled sample, all four types of flexibility were positively related to the customer equity-based residual value. HR flexibility had the strongest significant correlation to the customer equity-based residual value ($r=.381$).

6.6. Method and Results

6.6.1. Model Estimation with the Partial Least Squares Method

Researchers can estimate causal models by means of two different parameter estimation approaches: a covariance-based structure-analysis (e.g., LISREL) or a variance-based partial least squares approach (PLS, Wold 1982). We selected the variance-based PLS approach which draws on an iterative regression analysis (Chin 1998). PLS is a powerful multivariate analysis technique that integrates both elements of the principal component analysis and multiple regression (Fornell & Bookstein 1982, Wold 1982). Compared to other approaches that are frequently applied in strategic management and marketing research, PLS rests on more relaxed premises. As a non-parametric approach, it does not rely on multivariate normality assumptions (Balderjahn & Scholderer 2005 p. 91, Birkinshaw et al. 1995 p. 646f, Dibbern & Chin 2005 p. 146). Moreover, the PLS algorithm can deal with small sample sizes without incurring estimation problems or non-convergent

results (Chin 1998, Henseler et al. 2009). Still, we ensured that the minimum sample size requirements were met (Barclay et al. 1995). Our choice was also guided by the fact that PLS is able to handle formative constructs without identification problems (Chin et al. 2003, Diamantopoulos & Winklhofer 2001, Henseler et al. 2009 p. 282, Nijssen & Douglas 2008, Pinto et al. 2008 p. 160). We also selected PLS to emphasize the inductive nature of our research. The PLS algorithm mainly draws on the empirical data structure rather than on the model inherent assumptions determined by the researcher. It thus fits the explorative and predictive nature of our research (Fornell & Bookstein 1982, Henseler et al. 2009 p. 282, Lohmöller 1982 p. 7). We used the statistical software application SmartPLS 2.0 M3 (Ringle et al. 2005) for our path modeling and hypotheses estimations. We applied a multi-group analysis. The two sub-samples were created based on a median-split technique.

6.6.2. Evaluation of the Measurement Model

Our model drew on single-item measures based on objective data which formed the exogenous, endogenous and the control variables. We used some perceptive measurement input for the customer equity-based residual value variable. All measures rested on an in-depth review of the relevant constructs that were previously applied by researchers and were carefully aligned to the demands of our research context. We regularly consulted the industry experts to refine our measures during the entire measurement development process. We ensured a high quality of the underlying objective data and measurement constructs especially with respect to the rather small data sample. We did so in order to rule out disturbance of the statistical power due to potential asymptotically incorrectness (Henseler et al. 2009, Jöreskog & Wold 1982, Marcoulides & Saunders 2006 p. VI, Schneeweiß 1991). We paid special attention to the validity check because measurement reliability is an irrelevant quality assessment criterion for formative constructs given the assumption that they are error-free (Diamantopoulos 2006 p. 11, Edwards & Bagozzi 2000). We followed Rossiter's (2002) recommendations to ensure content and face validity. Moreover, researchers have frequently warned against multicollinearity in measurement models (e.g., Diamantopoulos & Winkelhofer 2001). We checked for potential multicollinearity signs among the four indicators of the exogenous variables by calculating the variance inflation factors (VIF; Diamantopoulos & Winklhofer 2001). Table 30 shows that the VIF and tolerance values were smaller than 2 and greater than .50, respectively. This was by far within the critical thresholds suggested by Diamantopoulos & Siguaw (2006, VIF > 3.33; see also Hair et al. 1998, VIF > 10, Diamantopoulos & Winkelhofer 2001 p. 272; tolerance < .10).

Variables	mean	sd	mean	sd	t-values of Group Differences	Significance Level
	Pooled sample:					
Financial Flexibility	.0290	.0334				
HR Flexibility	68.19	113.55				
Service Supply Chain Flexibility	.027	.023				
Distribution Chain Flex.	.656	.949				
Customer Equity-based Res. Value	2,693,059	2,667,046				
Market-focus	.049	.066				
Competitive Intensity	.523	.123				
Environmental Uncertainty	.367	.638				
Control Variable: Firm Age	29.3	19.95				
	Low market-focus sample:		**High market-focus sample:**			
Financial Flexibility	.0264	.0327	.0316	.0342	.485	ns
HR Flexibility	47.29	49.47	88.42	150.21	.157	ns
Service Supply Chain Flexibility	0.029	.026	.025	.020	.502	ns
Distribution Chain Flex.	.665	1.031	.647	.879	.940	ns
Customer Equity-based Res. Value	2,765,108	1,571,553	2,623,335	3,439,268	.836	ns
Control Variable: Firm Age	26.30	20.35	24.323	19.843	.702	ns
	Low competitive intensity sample:		**High competitive intensity sample:**			
Financial Flexibility	.0299	.0273	.0281	.0391	.911	ns
HR Flexibility	97.75	153.10	37.65	23.00	.038	p≤ .05
Service Supply Chain Flexibility	.031	.022	.023	.024	.182	ns
Distribution Chain Flex.	.861	1.185	.444	.566	.085	p≤ .10
Customer Equity-based Res. Value	2,860,080	2,472,565	2,520,471	2,886,470	.623	ns
Control Variable: Firm Age	25.68	19.65	24.90	20.59	.881	ns
	Low environmental uncertainty sample:		**High environmental uncertainty sample:**			
Financial Flexibility	.0223	.0199	.0355	.0420	.147	ns
HR Flexibility	95.03	151.31	42.23	47.33	.076	p≤ .10
Service Supply Chain Flexibility	.023	.021	.031	.024	.168	ns
Distribution Chain Flex.	.744	1.076	.571	.816	.481	ns
Customer Equity-based Res. Value	2,574,458	2,434,889	2,807,834	2,909,891	.735	ns
Control Variable: Firm Age	23.90	17.01	26.65	22.64	.594	ns

Table 28: Descriptive statistics of the data for the business units (study III)

		1	2	3	4	5	6	7	8	9
Pooled sample:										
1	Financial Flexibility	1								
2	HR Flexibility	-.013	1							
3	Service Supply Chain Flex	-.289(**)	-.183	1						
4	Distribution Chain Flex.	-.322(**)	.071	-.026	1					
5	Customer Equity-based Res. Value	.188	.381(***)	.041	.137	1				
6	Market-focus	-.055	-.064	.039	-.047	-.181	1			
7	Competitive Intensity	.038	.330(***)	.113	.019	.133	-.080	1		
8	Environmental Uncertainty	-.065	-.172	.120	.152	.211	-.072	-.180	1	
9	Firm Age	-.289(**)	.198	.144	.060	.138	-.075	-.055	.420(***)	1
Low market-focus sample:										
1	Financial Flexibility	1								
2	HR Flexibility	-.130	1							
3	Service Supply Chain Flex	-.296	-.330(*)	1						
4	Distribution Chain Flex.	-.266	.198	-.148	1					
5	Customer Equity-based Res. Value	.070	-.217	.226	.015	1				
High market-focus sample:										
1	Financial Flexibility	1								
2	HR Flexibility	-.004	1							
3	Service Supply Chain Flex	-.273	-.153	1						
4	Distribution Chain Flex.	-.390(**)	.040	.150	1					
5	Customer Equity-based Res. Value	.257	.484(***)	-.058	.221	1				
Low competitive intensity sample:										
1	Financial Flexibility	1								
2	HR Flexibility	-.059	1							
3	Service Supply Chain Flex	-.367(**)	-.266	1						
4	Distribution Chain Flex.	-.185	.148	-.124	1					
5	Customer Equity-based Res. Value	-.002	.566(***)	.038	.165	1				
High competitive intensity sample:										
1	Financial Flexibility	1								
2	HR Flexibility	.141	1							
3	Service Supply Chain Flex.	-.253	-.572(***)	1						
4	Distribution Chain Flex.	-.662(***)	.096	.291	1					
5	Customer Equity-based Res. Value	.306(*)	.092	.024	.177	1				
Low environmental uncertainty sample:										
1	Financial Flexibility	1								
2	HR Flexibility	.099	1							
3	Service Supply Chain Flex	-.110	-.142	1						
4	Distribution Chain Flex.	-.230	.153	-.429(**)	1					
5	Customer Equity-based Res. Value	.087	.683(***)	.034	.086	1				
High environmental uncertainty sample:										
1	Financial Flexibility	1								
2	HR Flexibility	-.026	1							
3	Service Supply Chain Flex	-.440(**)	-.259	1						
4	Distribution Chain Flex.	-.487(***)	-.107	.383(**)	1					
5	Customer Equity-based Res. Value	.228	-.046	.033	.191	1				

* = correlation is significant at a 10% level (2-tailed); ** = correlation is significant at a 5% level (2-tailed); *** = correlation is significant at a 1% level (2-tailed).

Table 29: Bivariate correlations among the latent variables of the models (study III)

Dependent	Independent variables	R^2	Tolerance	VIF
Financial Flexibility	HR Flexibility, Service Supply Chain Flexibility, Distribution Chain Flexibility, Firm Age	.190	.810	1.235
HR Flexibility	Financial Flexibility, Service Supply Chain Flexibility, Distribution Chain Flexibility, Firm Age	.023	.977	1.024
Service Supply Chain Flexibility	Financial Flexibility, HR Flexibility, Distribution Chain Flexibility, Firm Age	.079	.921	1.086
Distribution Chain Flexibility	Financial Flexibility, HR Flexibility, Service Supply Chain Flexibility, Firm Age	-.044	1.044	.958
Firm Age	Financial Flexibility, HR Flexibility, Service Supply Chain Flexibility, Distribution Chain Flexibility, Firm Age	.026	.974	1.027

Table 30: Variance inflation factor (study III)

6.6.3. Results of the Hypotheses Testing

Having ensured an appropriate assessment of the measurement model, next, we evaluated the size and significance of the path coefficients and examined the strength of their effects on the customer equity-based residual value. The original sample path coefficients of the structural modeling procedure and the sample means, standard errors, t-values and significance levels from bootstrapping procedures are presented in Table 31 and Figure 10. Table 32 provides an overview of the hypotheses outcomes. We applied a bootstrapping procedure (1,000 subsamples, 61 cases, individual sign changes) to calculate the significance levels of the structural relationships for the t-test outputs. To start with, we observed the general trends of the pooled sample paths to obtain a reference for the discussion of the moderated hypotheses. In general, we proposed positive relationships between all four types of flexibility and the customer equity-based residual value and found support for these propositions. In the pooled data set all flexibility types were positively and significantly related to the customer equity-based measure of the business units (financial flexibility .358, $p< .05$, HR flexibility .382, $p< .01$, service supply chain flexibility .202, $p< .05$, distribution chain flexibility .222, $p< .05$). Thereof, the internal flexibility types (HR and financial flexibility) had the largest path coefficients. We also considered the effect strength (f^2) of the variables. This quantifies the effect of the exogenous variable on the endogenous variable (Table 33; Cohen 1988). It denotes 'the increase in R^2 relative to the proportion of variance of the endogenous latent variable that remains unexplained' (Henseler et al. 2009 p. 304). Effect strengths of .02, .15 and .35 indicate small, medium and large effect sizes, respectively (Chin 1998). Our propositions were supported with regard to this aspect. The influence of financial (.13) and HR (.18) flexibility was medium and it was low for the external flexibility types (.05 service supply chain; .06 distribution chain flexibility).

In hypotheses 1a, 1b and 1d we proposed stronger relationships between flexibility and the customer equity-based residual value for firms with a higher market-focus based on the sub-group moderation effects (see
Figure 11). For financial flexibility (Hyp. 1a), our PLS estimates showed that the path coefficient for flexible firms with a higher market-focus was significant and higher (.429, $p< .05$) than the path for firms with a lower market-focus (.235, $p< .10$). The t-test for the

path differences, however, was insignificant (Chin 200. Henseler et al. 2009, Keil et al. 2000). The effect strength (f^2) of financial flexibility was medium to large for the firms in the high market-focus sub-sample (f^2=.25) but only small for firms with a low market-focus (f^2=.04). These findings only partially supported hypothesis 1a. For HR flexibility (Hyp. 1b), the path coefficients for the flexible firms with a high (.463, p< .01) and low (-.128, ns) market-focus significantly differed at a 1% significance level and the effect size was considerably stronger for the former (f^2_{high}= .31, f^2_{low}= .02). We obtained full support for hypothesis 1b. We also found a more positive relation for the path from distribution chain flexibility to the customer equity-based residual value for the firms with a high market-focus (.356, p< .5; f^2=.18) than for firms with a lower market-focus (.132, ns; f^2=.02) but the difference was not significant. This did not provide support for hypothesis 1d. In contrast to the directions of the above hypotheses, we proposed a stronger effect of firms' service supply chain flexibility on the customer equity-based residual value for the units with a less pronounced market-focus. The path coefficient in the lower market-focus model was greater (.257, p< .10; f^2=.06) than the one for the high market-focus group (.064, ns; f^2=.01) but this path difference was not significant so that there was no support for hypothesis 1c.

With respect to the implications of the business environment's competitive intensity for the flexibility requirements and its moderating impact on the customer equity-based residual value (Hyp. 2a-2d), we argued for stronger effects of financial, service supply chain and distribution chain flexibility on the firms' customer equity-based residual value in highly competitive environments and the opposite for HR flexibility (see Figure 12).

Our PLS estimations provided support for hypothesis 2a. The relationship between greater financial flexibility and the customer equity-based residual value was stronger for units that operated under high competitive intensity (high: .875, p< .01; low: .114, ns) and this path difference was significant (p< .05). The size of the effect for the financial flexibility path in the high competitive intensity sub-sample was very large (f^2=.48) and substantially greater than the effect size in the opposing group (f^2=.02). For the link between service supply chain flexibility and the customer equity-based residual value (Hyp. 2c), our estimates provided evidence for a positive path coefficient for firms under low competitive intensity (.245, p< .05) and a negative, insignificant path for highly competitive environments (-.091). The effect size test results reflected this surprising trend (f^2_{low}=.08; f^2_{high}=.01) which was opposite to our hypothesis 2c so this hypothesis remained unsupported. Yet, we found support for hypothesis 2d. The relationship between greater distribution chain flexibility and the customer equity-based residual value was significantly stronger (p< .05) for firms in more competitive environments (.737, p< .01) than for the low competitive intensity sub-sample (.16. ns). Consistently, the effect size was much stronger for firms in the more competitive conditions (f^2_{high}=.38; f^2_{low}=.04). We suggested a stronger relation between HR flexibility and the customer equity-based residual value for firms under more relaxed competitive conditions and found empirical

evidence for this in our data set. Under lower competition, the more flexible firms (.534, $p < .01$) created significantly greater customer equity-based value effects ($p < .05$) than the firms in competitive environments where this relationship even turned out to be negative (-.143, ns). The support for hypothesis 2b was also mirrored in the greater effect size of the exogenous variable (f^2_{low}=.41, f^2_{high}=.02).

Finally, we theorized about a moderating effect of environmental uncertainty in hypotheses 3a-3d (see Figure 13). We proposed a reinforcing impact of this moderator variable on the positive effect of financial, service supply chain and distribution chain flexibility on the customer equity-based residual value (Hyp. 3a, 3c, 3d) and a mitigating influence for HR flexibility (Hyp. 3b). Our empirical data provided support for the enhanced performance effect of financial flexibility in uncertain environments (Hyp. 3a). The path to the customer equity-based residual value in the high uncertainty sub-sample was positive (.529, $p < .05$), medium in effect size (f^2=.20) and significantly greater ($p < .10$) than in the model based on lower uncertainty (.09. ns; f^2=.01). We did not find support for hypothesis 3c because the path coefficient of service supply chain flexibility in the low environmental uncertainty group turned out to be higher (.169, ns) than for the high uncertainty group (.069, ns) but both paths were insignificant. Still, we found full support for a more positive link between greater distribution chain flexibility and the customer equity-based residual value in conditions of high environmental uncertainty (Hyp. 3d). The path of the high uncertainty sub-sample was significantly greater ($p < .10$) and stronger in its effect size (f^2_{high}=.15; f^2_{low}=.01) for the flexible firms that were challenged by greater uncertainty (.435, $p < .05$) than for the other group of firms (.06. ns). Finally, in hypothesis 3b we proposed a stronger relationship between HR flexibility and the customer equity-based residual value under low uncertainty and found empirical evidence for this. The path coefficient in the low uncertainty model was higher (.624, $p < .01$) than in the high uncertainty sub-group (.054, ns). The t-test for differences in the path coefficients was significant ($p < .05$) and the effect size in the low uncertainty path model was very large (f^2=.58) while it was zero in the high uncertainty sub-sample. This provided full support for hypothesis 3b.

We also observed potential effects of the control variables that may have biased our results. Due to the high differences in the firm sizes of our data set, we eliminated possible size-induced model distortions by adjusting all exogenous and endogenous variables by size. Besides this size control, we also controlled for firm age because especially young and very well-established firms may have had greater flexibility. More importantly, we were concerned that the older, well-established firms may have possessed a greater potential to create additional customer equity-based value through flexibility. In the pooled sample, firm age did not have a significant path coefficient (.123, ns) and the effect size was negligible. For the control variables in the six sub-sample models, we found significant paths only in the low competitive intensity sub-sample (.237, $p < .10$) so that we could rule out noises in our models due to effects of the control variables.

		Original Sample[1]	Sample Mean	Standard Error	T-value	Original Sample[1]	Sample Mean	Standard Error	T-value	T-value	Significance of Sub-sample Difference[2]
		Pooled sample:									
Financial Flex.	→Customer Equity-b.	.358 (**)	.3389	.1613	2.2172						
HR Flex.	→Customer Equity-b.	.382 (***)	.3797	.1418	2.693						
Service Supply Chain Flex.	→Customer Equity-b.	.202 (**)	.1955	.0905	2.2323						
Distribution Chain Flex.	→Customer Equity-b.	.222 (**)	.216	.1187	1.872						
Control Var: Firm Age	→Customer Equity-b.	.123 (ns)	.1466	.0992	1.2426						
		Low market-focus sample:				**High market-focus sample:**					
Financial Flex.	→Customer Equity-b.	.235 (*)	.2658	.1714	1.3717	.429 (**)	.375	.2379	1.8036	.6690	ns
HR Flex.	→Customer Equity-b.	-.128	-.2028	.1476	.8681	.463 (***)	.4848	.1583	2.9234	2.7724	p≤ .01
Service Supply Chain Flex.	→Customer Equity-b.	.257 (*)	.3024	.1867	1.3783	.064	.1222	.0938	.6800	.9486	ns
Distribution Chain Flex.	→Customer Equity-b.	.132	.1673	.1298	1.0168	.356 (**)	.3225	.162	2.1986	1.0929	ns
Control Var: Firm Age	→Customer Equity-b.	.205	.2515	.1651	1.2419	.058	.1555	.1237	.4647	---	---
		Low competitive intensity sample:				**High competitive intensity sample:**					
Financial Flex.	→Customer Equity-b.	.114	.1444	.1067	1.0668	.875 (***)	.8243	.3735	2.344	2.0208	p≤ .05
HR Flex.	→Customer Equity-b.	.543 (***)	.5114	.1909	2.8434	-.143	-.3101	.2495	.5739	2.2296	p≤ .05
Service Supply Chain Flex.	→Customer Equity-b.	.245 (**)	.246	.1479	1.6573	-.091	-.2458	.2142	.4228	1.3162	p≤ .10
Distribution Chain Flex.	→Customer Equity-b.	.160	.1849	.132	1.2109	.737 (***)	.7011	.2994	2.4603	1.8134	p≤ .05
Control Var: Firm Age	→Customer Equity-b.	.237 (*)	.2579	.1575	1.5033	.142	.2327	.1718	.8245	---	---
		Low environmental uncertainty sample:				**High environmental uncertainty sample:**					
Financial Flex.	→Customer Equity-b.	.090	.1426	.1071	.8365	.529 (**)	.4692	.271	1.9509	1.5128	p≤ .10
HR Flex.	→Customer Equity-b.	.624 (***)	.6074	.1739	3.5887	.054	.2169	.1935	.2773	2.2232	p≤ .05
Service Supply Chain Flex.	→Customer Equity-b.	.169	.2047	.1535	1.0989	.069	.1672	.1252	.5495	.5149	ns
Distribution Chain Flex.	→Customer Equity-b.	.060	.1793	.1534	.3895	.435 (**)	.432	.2419	1.7989	1.3213	p≤ .10
Control Var: Firm Age	→Customer Equity-b.	.145	.1845	.1328	1.0889	.167	.2108	.146	1.1406	---	---

[1] *= significant at 10%; **= significant at 5%; ***= significant at 1%; one-tailed test, parametric t-test approach based on standard errors obtained from bootstrapping (1,000 samples). [2]= t-test based MGA approach to test for differences in path coefficients of the two groups (Keil et al. 2000, Henseler et al. 2009).

Table 31: Path analysis and multi-group analysis for differences in the path coefficients (study III)

	Hypothesis	Exogenous Variable	Endogenous Variable	Hypothesized Direction	
	Market-focus				
1a	The effect of financial flexibility (internal flexibility) on the customer equity-based value of the firm's customer base will be stronger for firms with a high market-focus than for firms with a low market-focus.	Financial Flexibility (Internal / Intra-organizational)	Customer Equity-based Res. Value	high market-f. group > low market-f. group (ns)	×
1b	The effect of human resource flexibility (internal flexibility) on the customer equity-based residual value of the firm's customer base will be stronger for firms with a high market-focus than for firms with a low market-focus.	Human Resource Flexibility (Internal / Intra-organizational)	Customer Equity-based Res. Value	high market-f. group > low market-f. group (p≤ .01)	✓
1c	The effect of service supply chain flexibility (external flexibility) on the customer equity-based residual value of the firm's customer base will be stronger for firms with a low market-focus than for firms with a high market-focus.	Service Supply Chain Flexibility (External/ Inter-organizational)	Customer Equity-based Res. Value	low market-f. group > high market-f. group (ns)	×
1d	The effect of distribution chain flexibility (external flexibility) on the customer equity-base residual value of the firm's customer base will be stronger for firms with a high market-focus than for firms with a low market-focus.	Distribution Chain Flexibility (External/ Inter-organizational)	Customer Equity-based Res. Value	high market-f. group > low market-f. group (ns)	×
	Competitive Intensity				
2a	The effect of financial flexibility (internal flexibility) on the customer equity-based residual value of the firm's customer base will be stronger for firms in environments with high competitive intensity than for firms operating under low competitive intensity.	Financial Flexibility (Internal / Intra-organizational)	Customer Equity-based Res. Value	high compet. int. group > low compet. int. group (p≤ .05)	✓
2b	The effect of human resource flexibility (internal flexibility) on the customer equity-based residual value of the firm's customer base will be stronger for firms in environments with low competitive intensity than for firms operating under high competitive intensity.	Human Resource Flexibility (Internal / Intra-organizational)	Customer Equity-based Res. Value	low compet. int. group > high compet. int. group (p≤ .05)	✓
2c	The effect of service supply chain flexibility (external flexibility) on the customer equity-based residual value of the firm's customer base will be stronger for firms in environments with high competitive intensity than for firms operating under low competitive intensity.	Service Supply Chain Flexibility (External/ Inter-organizational)	Customer Equity-based Res. Value	high compet. int. group > low compet. int. group (p≤ .10)	×
2d	The effect of distribution chain flexibility (external flexibility) on the customer equity-based residual value of the firm's customer base will be stronger for firms in environments with high competitive intensity than for firms operating under low competitive intensity.	Distribution Chain Flexibility (External/ Inter-organizational)	Customer Equity-based Res. Value	high compet. int. group > low compet. int. group (p≤ .05)	✓
	Environmental Uncertainty				
3a	The effect of financial flexibility (internal flexibility) on the customer equity-based residual value of the firm's customer base will be stronger for firms in environments with high uncertainty than for firms operating under low uncertainty.	Financial Flexibility (Internal / Intra-organizational)	Customer Equity-based Res. Value	high env. uncert. group > low env. uncert. group (p≤ .10)	✓
3b	The effect of human resource flexibility (internal flexibility) on the customer equity-based residual value of the firm's customer base will be stronger for firms in environments with low uncertainty than for firms operating under high uncertainty.	Human Resource Flexibility (Internal / Intra-organizational)	Customer Equity-based Res. Value	low env. uncert. group > high env. uncert. group (p≤ .05)	✓
3c	The effect of service supply chain flexibility (external flexibility) on the customer equity-based residual value of the firm's customer base will be stronger for firms in environments with high uncertainty than for firms operating under low uncertainty.	Service Supply Chain Flexibility (External/ Inter-organizational)	Customer Equity-based Res. Value	high env. uncert. group > low env. uncert. group (ns)	×
3d	The effect of distribution chain flexibility (external flexibility) on the customer equity-based residual value of the firm's customer base will be stronger for firms in environments with high uncertainty than for firms with operating under low uncertainty.	Distribution Chain Flexibility (External/ Inter-organizational)	Customer Equity-based Res. Value	high env. uncert. group > low env. uncert. group (p≤ .10)	✓

* = significant at a 10% level; ** = significant at a 5% level; *** = significant at a 1% level; ns = non-significant; based on one-tailed tests.

Table 32: Overview of the hypotheses (study III)

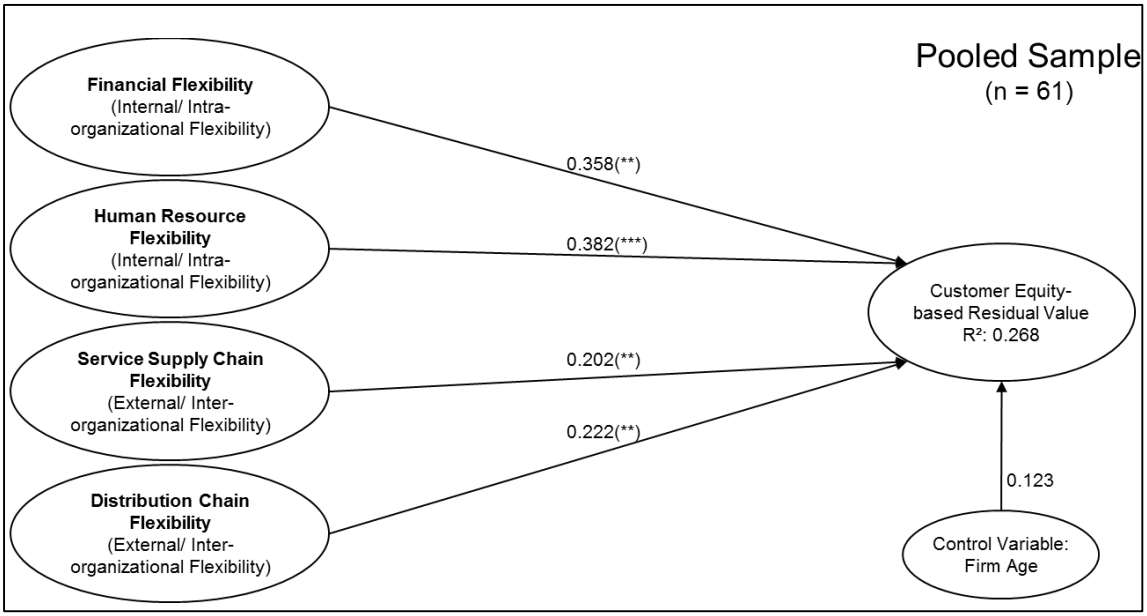

Figure 10: Pooled sample (study III)

Effect sizes of the main effects model	path to		R^2 including the variable	R^2 excluding the variable	effect strength[1] (f^2)		R^2 including the variable	R^2 excluding the variable	effect strength[1] (f^2)
			Pooled sample:						
Financial Flex	→ Customer Equity-based Res. Value		.268	.171	.13				
HR Flex.			.268	.135	.18				
Service Supply Chain Flex.			.268	.233	.05				
Distribution Chain Flex.			.268	.225	.06				
Control Var.: Firm Age			.268	.255	.02				
			Low market-focus sample:				**High market-focus sample:**		
Financial Flex	→ Customer Equity-based Res. Value		.135	.097	.04		.418	.275	.25
HR Flex.			.135	.122	.02		.418	.237	.31
Service Supply Chain Flex.			.135	.086	.06		.418	.414	.01
Distribution Chain Flex.			.135	.120	.02		.418	.311	.18
Control Var.: Firm Age			.135	.099	.04		.418	.415	.01
			Low competitive intensity sample:				**High competitive intensity sample:**		
Financial Flex	→ Customer Equity-based Res. Value		.438	.428	.02		.370	.067	.48
HR Flex.			.438	.208	.41		.370	.359	.02
Service Supply Chain Flex.			.438	.393	.08		.370	.366	.01
Distribution Chain Flex.			.438	.414	.04		.370	.130	.38
Control Var.: Firm Age			.438	.390	.09		.370	.358	.02
			Low environmental uncertainty sample:				**High environmental uncertainty sample:**		
Financial Flex	→ Customer Equity-based Res. Value		.503	.496	.01		.199	.040	.20
HR Flex.			.503	.213	.58		.199	.196	.00
Service Supply Chain Flex.			.503	.481	.04		.199	.196	.00
Distribution Chain Flex.			.503	.500	.01		.199	.075	.15
Control Var.: Firm Age			.503	.487	.03		.199	.177	.03

[1] effect strength (f^2) = (R^2_{incl}- R^2_{excl}) / (1-R^2_{incl}) ≥ .02 = small influence, ≥ .15 = medium influence, ≥ .35= substantiated influence of the latent exogenous variable on the latent endogenous variable (Chin 1998 p. 317).

Table 33: Effect strengths of the latent exogenous variables (study III)

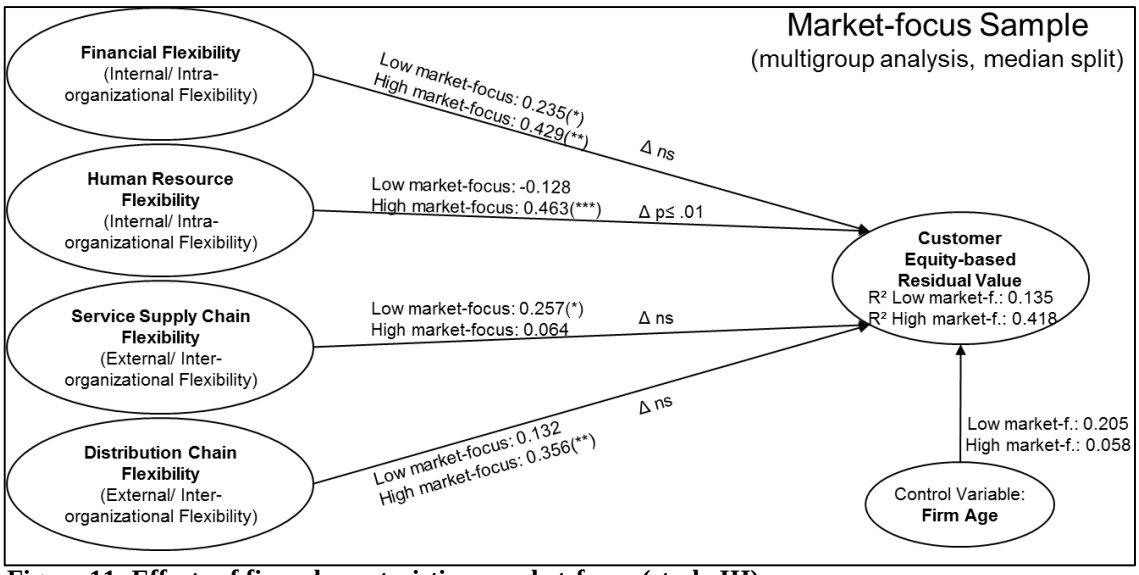

Figure 11: Effects of firm characteristics: market-focus (study III)

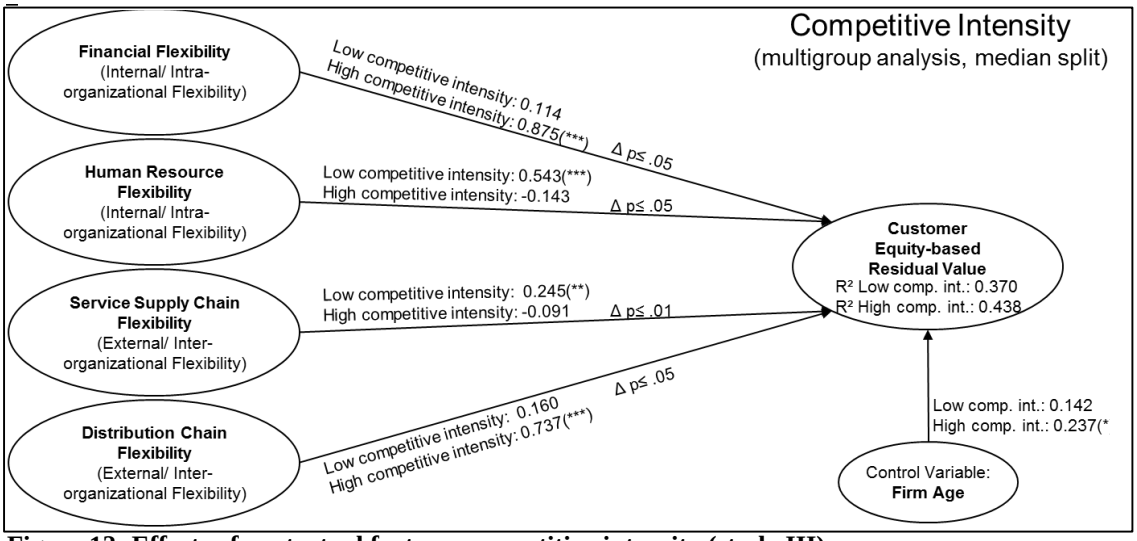

Figure 12: Effects of contextual factors: competitive intensity (study III)

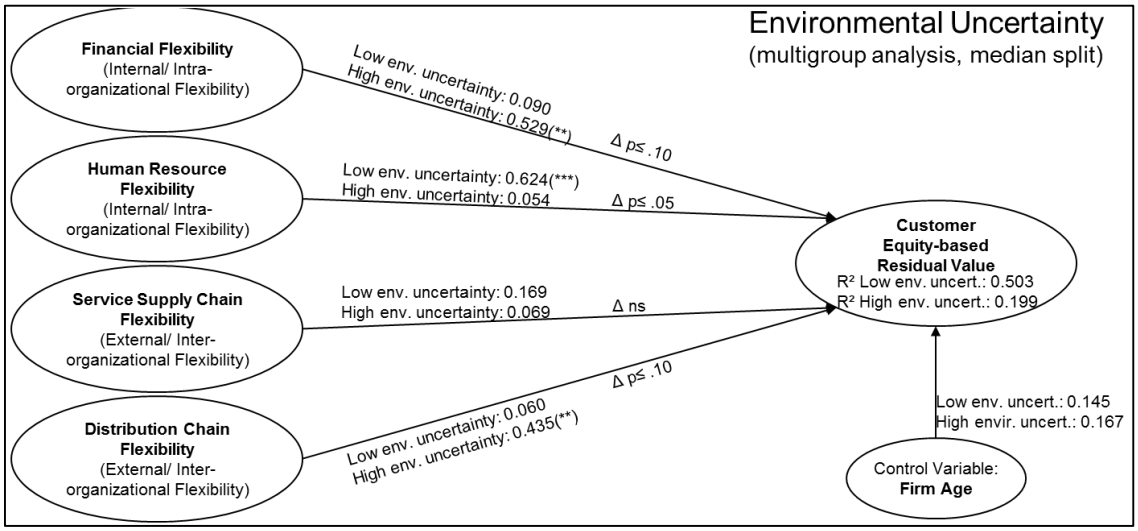

Figure 13: Effects of contextual factors: environmental uncertainty (study III)

6.6.4. Evaluation of the Structural Model

Finally, we evaluated the ability of the group-specific models to predict the customer equity-based outcomes. Chin (1998 p. 316) suggested a list of criteria to evaluate the quality of PLS models given the absence of global fitness indices in covariance-based modeling approaches. He (1998 p. 316) emphasized the coefficient of determination (R^2) as the central evaluation criterion. It indicates the fit of the regression function to the empirical data. Adjusted R^2 of .67, .33 and .19 indicate a 'substantiated', 'medium' or 'weak' model quality, respectively (Chin 1998 p. 323). Our pooled sample had an R^2 of .268 which indicated a medium model quality. With regard to the firms' market-focus, the high sub-sample model showed a good overall estimation quality (R^2_{high} = .418) while the low market-focus group was rather weak (R^2_{low} = .135). For competitive intensity, we found both sub-group models to have a medium to high model quality (R^2_{low} = .438, R^2_{high} = .370). Considering environmental uncertainty, the low uncertainty sub-group model had the best model quality (R^2_{low} = .503) whereas the high sub-sample showed a good but lower quality (R^2_{high} = .199). All in all, the estimated coefficients of determination indicated that all models achieved a satisfactory quality. This was important for our explorative study as previous research did not observe the impact of the different flexibility types on the value of the customer base. The model quality achieved was remarkable also because researchers in the fields of social science often obtain only weak to medium coefficients of determinations. Moreover, our models comprised only four exogenous latent variables. According to Henseler et al. (2009 p. 303), a moderate explanatory power is acceptable for such models. All in all, we observed the signs, strengths (weights) and significance levels of all path coefficients in our causal models and obtained satisfactory results for most aspects (Cool et al. 1989 p. 515). Based on these findings, we could conclude that a satisfactory fit and a good global quality have been achieved for the proposed structural equation models. Our confidence rested on the fact that our findings confirmed the general theoretical reasoning of the marketing and management literature as well as the rationale of the industry experts that we frequently consulted during the research phase.

6.7. Discussion and Conclusions

We have shown that the overall relationships between our four flexibility types and the customer equity-based residual value were positive. This is meaningful insofar as one stream of the previous flexibility research streams warned against the costs of flexibility given the negative empirical short-term performance findings (e.g., Suarez et al. 1991). Our findings show that in the long-run, well considered investments in flexibility pay-off. While we do not deny that flexibility has a cost, our findings also show that most firms created prudent levels of flexibility thereby also avoiding negative long-term customer equity-based value effects. Our data indicated that firms' budget constraints seemed to naturally regulate the creation of flexibility. Researchers are therefore advised to concentrate on the implications that (too) low flexibility levels have. Establishing an empirical relationship between flexibility and the long-term value of the firms' customer base has

been an important contribution to research. This has enabled us to provide managers with resource allocation recommendations that are guided by aspects of firm value optimization. This is an important milestone as the lack of reliable long-term performance measures has so far prevented flexibility decisions from receiving the attention that they deserved. Assigning relevant firm value implications to flexibility decisions may also help to direct senior management's and shareholders' focus on these topics.

Our differentiated flexibility findings on the multi-group comparison level show that the flexibility-performance relationship should not be considered outside the realm of environmental conditions and firm characteristics. Pooled models can only provide an initial general trend indication. On the sub-sample level, we therefore provided more differentiated empirical evidence for our strong theoretical arguments about the firm and customer value contributions of different flexibility types under various situational factors. We found empirical evidence that financial flexibility is a strong and reliable source of value creation for both the customer and the firm. Our results show that the path coefficients for this flexibility type ranged among the largest effects in adverse conditions such as environmental uncertainty and competitive pressures. Although financial flexibility carries opportunity costs, our results demonstrated that the customer equity-based return on this investment is considerable. Our results therefore suggest that managers who attempt to manage adverse environments should invest in financial flexibility. We also received support that financial flexibility actually 'permits the profitable exploitation of information not yet received' (Jones & Ostroy 1984 p. 24). The positive and high path coefficients indicate that financial flexibility provided firms with an immediate room for maneuvering and that these firms effectively converted this flexibility into firm value. Compared to the other flexibility types, this is particularly true because it seems to be comparably easy to build financial flexibility. Aaker & Mascarenhas (1984), for instance, mentioned excess cash flows or bank loans as potential sources of financial flexibility which can be obtained relatively easy. Notably, this ensures that the firm can raise 'cash in sufficient amounts at the correct time and in the correct amount to balance expected and unexpected cash surpluses or shortages caused by future events' (Koornhof 1998 p. 171). Nevertheless, the firm still needs to develop the capabilities to manage and reallocate its cash funds appropriately. For firms with a high market-focus, we find it surprising that the t-test did not indicate a significant difference for the more flexible firms. This implies that the firms were unable to convert their financial flexibility into significantly greater customer equity-based residual value than firms with a less pronounced market-focus. Despite the insignificant difference in the paths, our theoretical argument still holds that firms with a greater market-focus allocate their financial resources more wisely to the areas that matter for the customers. We relate the insignificant path difference finding back to our specific sample and the possibility that in this case the sample size may have played an unfavorable role.

Distribution chain flexibility also showed a strong and encouraging long-term performance relevance. A wisely managed distribution chain provides another good source of value-creating flexibility for firms that face challenging environmental conditions. Although we admit that distribution chain flexibility belongs to the more difficult to create types of flexibility particularly in the automotive industry where manufacturers regularly push additional product supply into the distribution chain to ensure a full capacity utilization of their plants, our findings showed that this flexibility type is nevertheless worth the investment. During environmental uncertainty with unpredictably fluctuating market demand or under high competitive pressures, firms that were able to flexibly manage their ties to their partners in the distribution system could ensure appropriate stock levels and thereby created a significantly greater customer equity-based residual value of the firm's customer base. Firms in low environmental uncertainty or under negligible competitive pressures hardly seemed to benefit from this external flexibility type. In the absence of external pressures, firms obviously did not face the challenge of inappropriately high or low inventory levels as the future sales situation remained predictable. An investment in distribution chain flexibility would have been an unnecessary additional cost. Moreover, we would have expected this positive effect of distribution chain flexibility on the customer equity-based residual value for the more market-focused firms. However, the empirical results did not support this reasoning. This may have been the case because we, in general, found weak support for our hypotheses for the market-focus models. While we had a strong theoretical argument, the mainly insignificant findings could be because our data set did not comprise firms with a fully developed market-focus. This would be in line with Holweg & Pil (2004) who noted that the automotive industry showed a rather poor performance in responding to customer needs.

Interestingly, our findings for service supply chain flexibility under environmental moderation ran contrary to the hypothesized direction. The empirical evidence for this flexibility type indicated significantly greater performance implications for firms under low competitive intensity. Similar but insignificant findings for a greater customer equity-based residual value effect applied for firms under low environmental uncertainty. While unexpected, we concluded that service supply chain flexibility may have been more difficult to manage given that this inter-organizational flexibility type draws on a multitude of external service partners. This let us assume that, compared to the other types of flexibility, service supply chain flexibility would not lend itself to the extremely quick actions that would be required in highly competitive or uncertain environments. This could be the case because the uncertain conditions may not have allowed managers to also focus on the management of the external portfolio of service providers. Rather, managers could have concentrated more on the coordination and reallocation of their internal resources. Our findings also indicated that the investment in a greater market-focus was counterproductive with regard to service supply chain flexibility. We related this back to the fact that the more market-focused firms may have found it easier to select appropriate service

providers but at the same time, they could not ensure that their high market-focus expectations could also be delivered through their service providers.

Lastly, we found full support for our HR flexibility based hypotheses. Firms with a greater market-focus were indeed able to allocate their employees from the underemployed areas to tasks where the demand for labor was higher in a value creating manner and they were able to reverse such allocation decision when the need arose. They did so by paying due regard to the needs and wants of the customers and therefore created superior value propositions for the market. For the firms, this paid off in a greater customer equity-based residual value. Nevertheless, our findings for the environmental contingency factors also indicated that HR flexibility was a rather slow way of creating flexibility because it generally takes some time for the employees to become fully effective after being relocated. Yet, once firms have mastered the art of re-allocating human resources, HR flexibility has a strong impact on the customer equity-based residual value. Although not advisable in difficult environmental conditions, for us, HR flexibility remains an extremely valuable flexibility type because the reallocation of existing employees preserves and broadens the firm-specific skills, capabilities and routines. It constitutes a promising alternative to numerical HR flexibility for firms with a pronounced market-focus. We emphasize, however, that this is a type of flexibility that lends itself to less disturbed environments and rather calm periods given our findings in the hypotheses 2b and 3b. Here it can be used to enhance the customer equity-based residual value of the firm's customer base.

Our study included both intra- and interorganizational types of flexibility and has, to the best of our knowledge, been the first flexibility study to do so. From this perspective, our findings were not clearly in favor of one or the other flexibility type. Rather, firms could benefit from internal and external flexibility when facing challenging environmental conditions. We found that financial flexibility, as an internal flexibility source, and distribution chain flexibility as an external type were customer equity-based residual value enhancing in demanding environmental conditions such as competitive intensity or uncertainty. This clearly indicated that it is a legitimate way for firms to consider external flexibility options when it is too risky to accommodate change solely internally (Abraham & Taylor 1993). In summary, our flexibility conceptualization provided resource allocation recommendations for all kinds of environmental circumstances. Firms should invest in financial flexibility and distribution chain flexibility to have immediate remedies in uncertain environments and they can contribute to the creation of customer equity-based residual value in calm environments by emphasizing HR flexibility and service supply chain flexibility. Market-focused firms should focus on HR flexibility and de-emphasize service supply chain flexibility. These insights constitute an important guide for managers' resource reallocation decisions to optimize the value of their firms' customer base. Our paper filled a gap in research since empirical flexibility research in market contexts has only very recently started to emerge. We showed that all resources can contribute to

flexibility (Slack 1987). We responded to Anand & Ward's request (2004) on how specific types of flexibility could contribute to the management of environmental conditions. Although created on the operational level, we showed that flexibility must be understood and managed from a holistic perspective rather than solely focusing on the functional level. We provided recommendations to managers with regard to the conditions that call for specific types of flexibility. Given the high data quality and the strong theoretical foundation of our hypotheses, we were confident that our findings can be transferred beyond the automotive context to marketing, sales and distribution firms in other durable consumer goods industries.

6.8. Limitations & Future Research

Although the empirical data set was rather small, our results were robust and hardly suffered from insignificant findings due to low sample size. There were several indications that the advanced data collection approach that we applied constituted a promising path with high potential to guide future data collection approaches. Nevertheless, our study had some limitations. The sample size did not allow for the use of variance-based structural equation modeling. A larger sample would have enabled us to use LISREL as an additional technique to estimate the global fitness indicators. With regard to the estimation algorithm, there is still potential for future refinement. Moreover, our data set was cross-sectional in nature. To mitigate this limitation, we calculated the customer equity-based residual value across a period of five years and thus incorporated an important dynamic component. Nevertheless, flexibility is an inherently dynamic concept and our model did not allow tracking the developments of flexibility and the customer equity-based residual value over time. This would have been especially interesting because it would have enabled us to observe the changing resource allocation patterns over time. This would provide deep insights into the customer value-based consequences of managers' decision-making and flexibility choices. We therefore strongly recommend that future researchers conceptualize flexibility models in a dynamic way. Future research could also observe potential interaction effects and trade-offs between the flexibility sub-types. We expect that there will be interaction effects especially for financial flexibility with the other flexibility types. Research in this direction should clarify if the previous research findings of interaction effects in manufacturing contexts could be transferred to marketing contexts. Our paper delivered the base research and future researchers are invited to build upon this model conceptualization based on another sample of marketing, sales and service firms. Using a customer equity-based performance measure, we have made important research contributions. We advise future researchers to refine the calculation of the customer equity-based residual value of the firm's customer base by collecting data on a 'sales-per-customer' level. For our research, we ensured that the four flexibility types which we observed were located on the same conceptual level. Yet, there might be additional flexibility types that could also play a critical role for customer equity. It could also be possible that some or all of our flexibility types share the same antecedents. Research-

ers could consequently extend our conceptualization by incorporating antecedents of flexibility into our base model conceptualization. Furthermore, researchers could consider the firm's market-focus simultaneously with the environmental contingency factors such as uncertainty. This consideration of a double moderation could be insightful since we expect that the firms' market-focus would have the potential to mitigate the adverse effects of environmental uncertainty or competitive intensity. While our measure of market-focus may have some room for improvement, we still believe in the potential of firms' market-focus as a strong firm characteristic to withstand threatening situations. We therefore encourage researchers to test further empirical flexibility models drawing on the mediating or moderating impact of firms' market-focus. It would have been possible to test our hypotheses using regression analysis. Nevertheless, we chose the PLS approach to pave the way for future extensions of our research model. Future researchers may want to consider additional intermediate performance variables such as customer satisfaction or market share development. For this, they must estimate all path coefficients simultaneously in order to consider the direct, indirect and total effects. PLS would permit a simultaneous evaluation of all these path coefficients (Birkinshaw et al. 1995). Our study provided empirically backed guidance on resource allocation decisions to invest in the more promising types of flexibility. It revealed the critical types of flexibility that marketing, sales and distribution units should emphasize in different circumstances. Future research must investigate the capabilities that are underlying these different flexibility types in order to formulate guidelines for managers on how to create, maintain and enhance these capabilities. In summary, we delivered important contributions to push flexibility research into a new phase and call for more future research that builds upon our valuable findings.

7. Concluding Remarks

7.1. Summary and Integration of the Results

The thesis was structured along several meaningful *research questions.* Thereby, it provided a comprehensive representation of the flexibility concept from a market-focused view. The thesis granted a theory framework to the flexibility construct by conceptualizing it in a resource- and capability-theory-based manner. In the introduction, it showed *where the firms' need for rapid actions and reactions comes from.* It outlined the market circumstances and business challenges of turbulent environments and offered a theoretical conceptualization for these external effects. It showed that the nature and pace of change have significantly altered and that the degree and complexity of this change have increased. The thesis linked turbulence to management uncertainty and stated that this condition regularly aggravates the implementation, coordination and effectiveness of marketing and management strategies. With regard to the *potential remedies for these uncertain situations,* the concept of flexibility was presented as a highly sophisticated competitive response to tackle uncertainty. This was based on the assumption that changing circumstances create uncertainty about the future developments and the firm's performance. Firms therefore aim to be flexible, in other words, to hold future options to cope with this uncertainty. Based on this, the introductory chapter presented flexibility *as a useful concept* because it enables firms to be adaptable and capable of change (Gustavsson 1984). Throughout the thesis, flexibility has been portrayed as a promising capability for firms which do not want to place themselves at the mercy of the uncertainties of external conditions and knee-jerk reactions.

In chapter 2, the thesis provided insights into the different literature streams that have attempted to *define flexibility*. It showed that the multifaceted nature of flexibility is reflected in countless definitions. Several definitions carry an element of change, described as an act, process or result through which something becomes different. This reflects the relational difference between the state before and after some event. A dominant stream of definitions considered flexibility as an adaptive capacity, ability, capability or repertoire. A further stream of definitions pivoted around having choices, alternatives or options to do things differently or to do something else if the need arises. In addition, flexibility has often been portrayed in terms of the actions that it potentially enables or with regard to its ultimate performance-related ends. The literature review also revealed several resource allocation based definitions that draw on the actions and processes of how firms become flexible. Recent flexibility literature widely agreed that flexibility builds upon resources and capabilities. Accordingly, this thesis extended Gustavsson's definition (1984 p. 82). To hold options and be flexible in time, it defined flexibility as the ability of firms to be adaptable and capable of change to rapidly respond to or initiate a wide range of situations and demands to satisfy the market expectations without incurring excessive costs, organizational disruptions or performance losses. This definition is temporally neutral and not restricted to foreseen events, one-off actions or unfolding threats or opportunities. Furthermore, it opens potential for all reactive, exploitive or proactive

actions. The thesis also delivered insights into *the relevant theoretical and empirical flexibility research findings*. The flexibility literature has dealt with the antecedents or drivers of flexibility, investigated paths towards flexibility, observed the conditions and looked at the effects of flexibility in different outcome dimensions. The thesis introduced the various aspects of enhanced strategic decision making and performance improvements that have been subject to the flexibility discussion in literature. It became clear that the use of moderated contingency models seemed to be the dominant stream in flexibility research.

Chapter 3 opened with a discussion on the *conceptual gaps in flexibility research*. It pointed out that the processes and capabilities through which flexibility is created remain unspecified and vague and that the flexibility literature has failed to present more concrete advice for practice. Based on the conclusion that the management of flexibility remains poorly understood, the thesis developed a *concept of how the flexibility concept could be anchored in a resource-and capabilities-theory-based theoretic framework*. Specifically, the proposed conceptualization showed that the managers' resource allocation task cannot be an initial one-off undertaking. Managers must make continued 'when, where and how often' resource allocation decisions to adjust their resource deployment pattern. The firms' ability to cope with the external environment derives from how they reconfigured themselves to sustain a current rent stream. Under uncertainty, firms need a sophisticated approach and strategies built on dynamic capabilities and flexibility are presented as a promising approach for these conditions. Given the insights from an in-depth literature review that the concepts of flexibility and dynamic capabilities have barely touched upon each other and have, for too long, been investigated as disconnected bodies of research despite considerable overlap, the thesis integrated both conceptual research streams and approached flexibility by means of the capability theory. A research logic was conceptualized according to which flexibility emerges from organizational capabilities. Flexible firms hold a bundle of capabilities, i.e., flexibility that enables them to adapt proactively or reactively to newly received information. Based on this logic, the creation of flexibility was described as a sequence of rapid internal and/or external reallocation processes and (dis-) investment decisions on the operational level of the firm. This unfolds choices as the core of flexibility which can be used for the deployment of the refreshed capabilities. This enables, if desired, the generation of visible market activities as a direct outcome of these processes. Importantly, the thesis shed light on *the processes to create flexibility*. This was important because many research papers have measured the performance outcomes of flexibility by blindly assuming that flexibility generating processes must have taken place in the operating system of the firm without taking a closer look at these processes. A flexibility research model was presented that consists of: 1.) rapid resource reallocation processes which represent the capability to formulate a response, 2.) market deployment processes as the capability to implement a course of action and 3.) performance outcomes to assess the effectiveness of reallocation and deployment processes.

The thesis outlined that the process of organizing and regulating the availability of situation-specific resources and capabilities lies at the core of flexibility. It was suggested that flexibility draws upon capabilities to select resources internally and re-allocate them. Based on this, firms were considered to be flexible if they could do so in a timely and cost-effective manner. It was found that the creation of flexibility is composed of reallocation capabilities which are accompanied by market-sensing and market deployment capabilities to deliver value to customers. Thereby, the thesis carefully differentiated the creation of flexibility from its deployment in the market. The implementation of a chosen course of actions was stated as an essential part because, besides the creation and reallocation processes, effective adaptation also requires the integration and application of these series of individual capabilities (Verdú-Jover et al. 2006 p. 338). In fact, it was concluded that it is not only the reconfiguration itself. These processes must be combined with the intention to make market-oriented decisions to achieve the desired effects. The developed model framework therefore also contained a performance element in order to capture the effectiveness of the firms' resource reallocation and harmonization efforts. Based on this conceptualization, the flexibility creation and deployment processes could be separated from *the ultimate performance implications.* In brief, the conceptualized research logic was as follows: Flexibility is a result of rapid reallocation decisions that are encompassed by effective market deployment actions. This is because the value of flexibility only unfolds when the managers transfer the generated options into market actions that are faster or more appropriate than the competitors' moves. The deployment actions thus ensure the realization of flexibility and must be both efficient and effective and this is what the link to performance outcomes captured. Based on this theoretical flexibility conceptualization, three empirical research studies were conducted in the automotive industry context.

Study I examined how firms *become and remain flexible* by assessing the process of creating flexibility via outsourcing decisions. With respect to the research question *how outsourcing contributes to firms' flexibility*, the thesis showed that firms can draw on the resources of their service providers at the firms' intra-organizational boundary in order to create flexibility. The study differentiated between market-support, market-facing and market-touching functions to observe the flexibility implications of outsourcing-based resource reallocation decisions. As hypothesized, the thesis found strong evidence for the flexibility-enhancing effect of resource reallocation decisions to external service providers. For the outsourcing of market-support functions, this was an important finding because the observed business units were able to transfer the operational freedom that was arising from the outsourcing of non-market relevant functions to visible marketing actions. Here, the study provided insights into the actual deployment of market-focused flexibility. Notably, for the outsourcing of market-facing functions, the significantly greater diversity in firms' market actions showed that the risk of outsourcing these functions was also manageable. This answered the question of *how the flexibility gained by resource reallocation decisions to external service providers manifests on the market.* It

was shown that the outsourcing of these functions resulted in a significantly greater diversity in market actions. Market-touching functions, in contrast, should not be outsourced for flexibility reasons because they neither drove market-focused flexibility nor performance outcomes. Taking the *market-focused performance outcomes of being flexible* into closer consideration, the thesis provided empirical evidence that the created market-focused flexibility was value enhancing in that it significantly drove the firms' sales turnover and customer satisfaction. In response to frequent calls in research that flexibility should not be considered isolated from external parameters, the research model included environmental uncertainty as a contingency factor. It was found that neither outsourcing nor environmental uncertainty could significantly decrease the strong effects of flexibility on performance outcomes such as customer satisfaction and sales turnover as long as managers carefully based their outsourcing approach on market-facing and/or market-support functions. Overall, the study showed that managers do not need to sacrifice market-focused performance when drawing on additional flexibility potential from outside providers because prudent outsourcing decisions enhance both market-focused flexibility and the performance outcomes.

In contrast to study I which focused on an intra-organizational way of creating flexibility, study II dealt with inter-organizational flexibility where firms make use of their slack resources. According to the research logic of this study, firms must not only carefully manage the level of human resource slack but also the location of their slack holdings. Notably, the study related the reallocation decisions in customer value supporting and customer value creating functions to firms' market activity and customer equity-based residual value of their customer base. The study thereby established a meaningful link to shareholder value relevant performance outcomes. With regard to the question *in which functional locations HR slack could act as a source of flexibility*, the study advised against holding slack in customer value supporting functions with regard to both negative flexibility and customer equity-based residual value outcomes. This indicated that the pure possession of resources is not of any value for the firm or its customers. In fact, the costs of holding slack for unforeseen situations exceeded the benefits and this materialized in an unfavorable market activity and negative customer equity-based residual value implications. Firms with reasonable levels of HR slack in customer value creating functions, on the contrary, could use resources in excess of the current demands as a source of reactive market-focused flexibility. This provided support that managers do not generally need to fear the existence of slack. Rather, they need to direct it to the right locations. Holding slack in customer value creating functions turned out to be a good source of reactive market-focused flexibility. With respect to the *capabilities and mechanisms that enable firms to use the flexibility inherent in slack resources in a proactive way*, the study observed the firms' level of resource reallocation capabilities. The strong and positive empirical link between slack in customer value creating functions and market activity under moderation of the firms' resource reallocation capabilities should encourage managers to invest in the improvement of their HR resource reallocation capabilities. This

would ensure that slack resources are directed to the organizational areas in need and with promising value potential. Considering the *firms' effectiveness of allocating slack to the right locations* and *how they translate their slack resources into customer equity-based residual value enhancing market actions,* the study explicitly named customer value supporting functions as an area of inappropriate slack allocation decisions. This was because it would cause negative effects on the overall value of the firms' customer base. The proactive use of HR slack, however, was found to be customer equity-based residual value enhancing.

Study III addressed the question of *which flexibility types would enhance the expected residual value of the firm's customer base* and considered these relationships *under different contingencies.* For this, the study integrated intra- and inter-organizational flexibility types and established an empirical relationship between flexibility and the long-term value of the firms' customer base. There was empirical evidence that financial flexibility, which is an internal flexibility type, is a strong and reliable source of value creation for both the customer and the firm. Managers are advised to rely on this type of flexibility during adverse conditions such as environmental uncertainty or competitive pressures while it would not be helpful for firms with a pronounced market-focus. Distribution chain flexibility, as an external type of flexibility, provided another good source of customer value creation for firms that faced challenging environmental conditions. The empirical findings indicated that service supply chain flexibility was an appropriate form of enhancing the value of the customer base under low competitive intensity. With regard to HR flexibility, however, the firms with a greater market-focus were able to allocate their employees from the underemployed areas to tasks where the demand for labor was higher and they reversed such allocation decisions when the need arose. The study showed that HR flexibility was not a prudent flexibility investment for firms in difficult environmental conditions such as competitive intensity or under environmental uncertainty. All in all, the findings were not clearly in favor of one or the other flexibility type. Rather, firms benefited from both internal and external flexibility types - under different circumstances, however. Financial flexibility, as an inter-organizational type of flexibility and distribution chain flexibility as an intra-organizational type were customer equity-based residual value enhancing in challenging environmental conditions. Firms were found to contribute to the creation of the customer equity-based residual value of their customer base in calm environments by investing into HR flexibility and partly also service supply chain flexibility while market-focused firms should focus on HR flexibility and deemphasize service supply chain flexibility.

This thesis provided an important step for the understanding of the processes to create and make use of flexibility in a market-focused way. Given the equifinality of the flexibility concept, the thesis opened different ways for and means of creating flexibility that managers can use to increase their flexibility performance. The thesis showed that both, intra- and inter-organizational sources can enhance the firms' flexibility level and the

resulting performance outcomes. By integrating various means of flexibility creation, the thesis did not leave the different flexibility types and their suitability unconnected and in isolation. Rather, it contrasted internal and external flexibility types under various contingencies. Remarkably, this thesis constituted one of the first research contributions in the fields of marketing and management research that linked flexibility decisions to performance measures other than the traditionally applied short-term profit-oriented outcomes. Thereby, the thesis provided researchers and managers with resource reallocation recommendations that are guided by aspects of value optimization for the firm and the customer alike. The insights from this thesis are important for theory and practice because they provide a value-driven legitimation for the creation and use of flexibility – a topic that has always been of utmost interest for firms which have realized that they do not operate in a vacuum and that change is inevitable.

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A. Appendix

A1. English Summary of the Thesis

The thesis provides a comprehensive representation of the flexibility concept from a market-focused view. It grants a theory framework to the flexibility construct by conceptualizing it in a resource- and capability-theory-based manner. In the introduction, the thesis shows where the firms' need for rapid actions and reactions comes from. It outlines the market circumstances and business challenges of turbulent environments and offers a theoretical conceptualization for these external effects. It shows that the nature and pace of change have significantly altered and that the degree and complexity of this change have increased. The thesis links turbulence to management uncertainty and states that this condition regularly aggravates the implementation, coordination and effectiveness of marketing and management strategies. With regard to the potential remedies for these uncertain situations, the concept of flexibility is presented as a highly sophisticated competitive response to tackle this uncertainty. This is based on the assumption that changing circumstances create uncertainty about future developments and the firms' performance. Firms therefore aim to be flexible, in other words, to hold future options to cope with this uncertainty. Based on this, the introductory chapter presents flexibility as a useful concept because it enables firms to be adaptable and capable of change (Gustavsson 1984). Throughout the thesis, flexibility is portrayed as a promising capability for firms which do not want to place themselves at the mercy of the uncertainties of external conditions and knee-jerk reactions.

In chapter 2, the thesis provides insights into the different literature streams that have attempted to define flexibility. It shows that the multifaceted nature of flexibility is reflected in countless definitions. Several definitions carry an element of change, described as an act, process or result through which something becomes different. This reflects the relational difference between the state before and after some event. A dominant stream of definitions has considered flexibility as an adaptive capacity, ability, capability or repertoire. A further stream of definitions pivoted around having choices, alternatives or options to do things differently or to do something else if the need arises. In addition, flexibility has often been portrayed in terms of the actions that it potentially enables or with regard to its ultimate performance-related ends. The literature review also reveals several resource allocation based definitions that draw on the actions and processes of how firms become flexible. Recent flexibility literature widely agrees that flexibility builds upon resources and capabilities. Accordingly, this thesis extends Gustavsson's definition (1984 p. 82). To hold options and to be flexible in time, it defines flexibility as the ability of firms to be adaptable and capable of change, to rapidly respond to or initiate a wide range of situations and demands to satisfy the market expectations without incurring excessive costs, organizational disruptions or performance losses. The thesis also provides insights into the relevant theoretical and empirical flexibility research findings. The flexibility

literature has dealt with the antecedents or drivers of flexibility, investigated paths towards flexibility, observed the conditions and looked at the effects of flexibility in different outcome dimensions.

Chapter 3 opens with a discussion on the conceptual gaps in flexibility research. It points out that the processes and capabilities through which flexibility is created remain unspecified and vague. Based on the conclusion that the management of flexibility remains poorly understood, the thesis develops a concept of how the flexibility concept could be anchored in a resource-and capabilities-theory-based theoretic framework. The proposed conceptualization shows that the managers' resource allocation task cannot be an initial one-off undertaking. Managers must make continued 'when, where and how often' resource allocation decisions to adjust their resource deployment pattern. The firms' ability to cope with the external environment derives from how they reconfigure themselves to sustain a current rent stream. Under uncertainty, firms need a sophisticated approach and strategies built on dynamic capabilities and flexibility are presented as a promising approach for these conditions. Given that the concepts of flexibility and dynamic capabilities have, for too long, been investigated as disconnected bodies of research despite considerable overlap, the thesis integrates both research streams. A research logic is conceptualized according to which flexibility emerges from organizational capabilities. Flexible firms hold a bundle of capabilities that enable them to adapt proactively or reactively to newly received information. The creation of flexibility is described as a sequence of rapid internal and/or external reallocation processes and (dis-) investment decisions on the operational level of the firm. This unfolds choices as the core of flexibility. It enables, if desired, the generation of visible market activities as a direct outcome of these processes. The thesis sheds light on the processes to create flexibility. This is important because many research papers have measured the performance outcomes of flexibility by blindly assuming that flexibility generating processes must have taken place in the operating system of the firm without taking a closer look at these processes. A flexibility research model is presented that consists of: 1.) rapid resource reallocation processes which represent the capability to formulate a response, 2.) market deployment processes as the capability to implement a course of action and 3.) performance outcomes to assess the effectiveness of reallocation and deployment processes. The process of organizing and regulating the availability of situation-specific resources and capabilities lies at the core of flexibility. It is suggested that flexibility draws upon capabilities to select resources internally and re-allocate them. Firms are considered to be flexible if they can do so in a timely and cost-effective manner. It is found that the creation of flexibility is composed of reallocation capabilities which are accompanied by market-sensing and market deployment capabilities to deliver value to customers. Thereby, the thesis carefully differentiates the creation of flexibility from its deployment in the market. It is concluded that it is not only the reconfiguration itself. These processes must be combined with the intention to make market-oriented decisions to achieve the desired effects. The developed model

framework therefore also contains market action and performance elements. This is because the value of flexibility only unfolds when the managers transfer the generated options into market actions that are faster or more appropriate than the competitors' moves. The deployment actions thus ensure the realization of flexibility and must be both efficient and effective and this is what the link to performance outcomes captures. Based on this theoretical flexibility conceptualization, three empirical research studies are conducted in the automotive industry context.

Study I examines how firms become and remain flexible by assessing the process of creating flexibility via outsourcing decisions. The study shows that firms can draw on the resources of their service providers at the firms' intra-organizational boundary in order to create flexibility. It differentiates between market-support, market-facing and market-touching functions to observe the flexibility implications of outsourcing-based resource reallocation decisions. As hypothesized, the thesis finds strong evidence for the flexibility-enhancing effect of resource reallocation decisions to external service providers. For the outsourcing of market-support functions, this is an important finding because the observed business units are able to transfer the operational freedom that arises from the outsourcing of non-market relevant functions to visible marketing actions. For the outsourcing of market-facing functions, the significantly greater diversity in firms' market actions shows that the risk of outsourcing these functions is also manageable. This answers the question of how the flexibility gained by resource reallocation decisions to external service providers manifests on the market. Market-touching functions, in contrast, should not be outsourced for flexibility reasons because they neither drive market-focused flexibility nor performance outcomes. The thesis also provides empirical evidence that the market-focused flexibility created is value enhancing in that it significantly drives firms' sales turnover and customer satisfaction. In response to frequent calls in research that flexibility should not be considered isolated from external parameters, the research model includes environmental uncertainty as a contingency factor. It is found that neither outsourcing nor environmental uncertainty can significantly decrease the strong effects of flexibility on performance outcomes such as customer satisfaction and sales turnover as long as managers carefully base their outsourcing approach on market-facing and/or market-support functions. Overall, the study shows that managers do not need to sacrifice market-focused performance when drawing on additional flexibility potential from outside providers because prudent outsourcing decisions can enhance both market-focused flexibility and performance outcomes.

In contrast to study I which focuses on an intra-organizational way of creating flexibility, study II deals with inter-organizational flexibility where firms make use of their slack resources. Firms must not only carefully manage the level of human resource (HR) slack but also the location of their slack holdings. The study relates the reallocation decisions in customer value supporting and customer value creating functions to firms' market ac-

tivity and the customer equity-based residual value of their customer base. It thereby establishes a meaningful link to shareholder value relevant performance outcomes. With regard to the question in which functional locations HR slack could act as a source of flexibility, the study advises against holding slack in customer value supporting functions with regard to both negative flexibility and customer equity-based residual value outcomes. This indicates that the pure possession of resources is not of any value for the firm or its customers. In fact, the costs of holding slack for unforeseen situations exceeds the benefits and this materializes in unfavorable market activity and negative customer equity-based residual value implications. Firms with reasonable levels of HR slack in customer value creating functions, on the contrary, can use resources in excess of the current demands as a source of reactive market-focused flexibility. This provides support that managers do not generally need to fear the existence of slack. Rather, they need to direct it to the right locations. Holding slack in customer value creating functions turns out to be a good source of reactive market-focused flexibility. With respect to the capabilities and mechanisms that enable firms to use the flexibility inherent in slack resources in a proactive way, the study observes the firms' level of resource reallocation capabilities. The strong and positive empirical link between slack in customer value creating functions and market activity under moderation of the firms' resource reallocation capabilities should encourage managers to invest in the improvement of their HR resource reallocation capabilities. This ensures that slack resources are directed to the organizational areas in need and with promising value potential. Considering the firms' effectiveness in allocating slack to the right locations and how they translate their slack resources into customer equity-based residual value enhancing market actions, the study explicitly names customer value supporting functions as an area of inappropriate slack allocation decisions. This is because it causes negative effects on the overall value of the firms' customer base. The proactive use of HR slack, however, is found to be customer equity-based residual value enhancing.

Study III addresses the question of which flexibility types enhance the expected residual value of the firm's customer base and considers these relationships under different contingencies. It integrates intra- and inter-organizational flexibility types and establishes an empirical relationship between flexibility and the long-term value of the firms' customer base. It shows that financial flexibility, as an internal flexibility type, is a strong and reliable source of value creation. Managers are advised to rely on this type of flexibility during adverse conditions such as environmental uncertainty or competitive pressures while it is not helpful for firms with a pronounced market-focus. Distribution chain flexibility, as an external type of flexibility, provides another good source of customer value creation for firms that face challenging environmental conditions. The empirical findings indicate that service supply chain flexibility is an appropriate form of enhancing the value of the customer base under low competitive intensity. With regard to HR flexibility, however, firms with a greater market-focus are able to allocate their employees from the underemployed areas to tasks where the demand for labor is higher and they reverse such

allocation decisions when the need arises. The study shows that HR flexibility is not a prudent flexibility investment for firms in difficult environmental conditions such as competitive intensity or under environmental uncertainty. All in all, the findings are not clearly in favor of one or the other flexibility type. Rather, firms benefit from both, internal and external flexibility types - under different circumstances, however.

This thesis provides an important step for the understanding of the processes to create and make use of flexibility in a market-focused way. Given the equifinality of the flexibility concept, the thesis opens different ways for and means of creating flexibility that managers can use to increase their flexibility performance. The thesis shows that both, intra- and inter-organizational sources can enhance the firms' flexibility level and the resulting performance outcomes. By integrating various means of flexibility creation, the thesis does not leave the different flexibility types and their suitability unconnected and in isolation. Rather, it contrasts internal and external flexibility types under various contingencies. Remarkably, this thesis constitutes one of the first research contributions in the fields of marketing and management research that links flexibility decisions to performance measures other than the traditionally applied short-term profit-oriented outcomes. Thereby, it provides researchers and managers with resource reallocation recommendations that are guided by aspects of value optimization for the firm and the customer alike. The insights from this thesis are important for theory and practice because they provide a value-driven legitimation for the creation and use of flexibility.

A2. Dutch Summary of the Thesis (Nederlandse Samenvatting)

Deze scriptie levert een uitgebreid beeld van het concept van flexibiliteit vanuit een marktgeoriënteerd perspectief. Het voorziet het idee van flexibiliteit van een theoretisch referentiekader door middel van een conceptualisatie op basis van de middelen- en vermogensbenadering. De introductie legt uit waar de noodzaak voor een bedrijf om snel te kunnen handelen en reageren vandaan komt. Hij beschrijft de markttoestanden en zakelijke uitdagingen die zich voordoen in turbulente omstandigheden, en biedt een theoretische conceptualisatie van deze externe effecten. Er wordt aangetoond dat de aard en snelheid waarmee ontwikkelingen plaatsvinden wezenlijk zijn veranderd. De scriptie legt een link tussen turbulentie en onzeker management, en stelt dat een onzekere situatie de implementatie, coördinatie en effectiviteit van marketing- en managementstrategieën dikwijls bemoeilijkt. Vervolgens wordt flexibiliteit voorgesteld als een zeer verfijnd middel om onzekerheid mee aan te pakken. Dit is gebaseerd op de veronderstelling dat veranderlijke omstandigheden onzekerheid creëeren over de toekomstige ontwikkelingen en prestaties van een bedrijf. Met andere woorden, bedrijven willen graag flexibel zijn zodat zij over genoeg opties beschikken om in de toekomst met onzekerheid om te kunnen gaan. Op basis hiervan presenteert de introductie flexibiliteit als een nuttig concept, omdat het bedrijven ertoe in staat stelt op verandering te anticiperen en veranderlijk te zijn (Gustavsson 1984). De scriptie zet flexibiliteit neer als een veelbelovend middel voor

bedrijven die zich niet willen laten leiden door onzekere externe omstandigheden en gehaaste, ondoordachte reacties.

Hoofdstuk 2 van de scriptie biedt inzichten in de verschillende literatuurstromingen en hoe zij geprobeerd hebben flexibiliteit te definiëren. Er wordt aangetoond dat de veelzijdige aard van flexibiliteit terug is te zien in de talloze definities ervan. Sommige definities hebben het over verandering in de vorm van eeen handeling, proces of resultaat waardoor iets anders wordt. Dit weerspiegelt het relationele verschil in staat vóór en na een bepaalde gebeurtenis. Een tweede, dominante definitiestroming draait om het idee van flexibiliteit als de mogelijkheid of vaardigheid om zich aan te passen, of als een totaal repertoire van aanpassingen. Nog een derde stroming heeft als spil het hebben van keuzes, alternatieven of opties om dingen op een andere manier te doen of om voor iets anders te kiezen mocht dat nodig zijn. Tevens wordt flexibiliteit vaak beschreven in termen van de handelingen die het beschikbaar stelt, of met betrekking tot zijn uiteindelijk prestatiegerichte doeleinden. Het literatuuronderzoek onthult bovendien verscheidene op (her-)toewijzing gebaseerde definities die spreken over de handelingen en processen waarmee bedrijven zichzelf flexibel maken. In recente literatuur over flexibiliteit is men het er sterk over eens dat flexibiliteit voortbouwt op middelen en capaciteiten. Zodoende breidt deze scriptie Gustavssons definitie uit (1984 p. 82). De scriptie definieert flexibiliteit als de mogelijkheid voor bedrijven om aanpasbaar te zijn en snel te kunnen reageren op veel verschillende situaties of deze te kunnen bewerkstelligen, met het doel hierdoor aan de marktverwachtingen te kunnen voldoen zonder hierbij overmatige kosten, prestatieverliezen of organisationele verstoringen op te lopen. De scriptie biedt ook inzichten in de relevante theoretische en empirische onderzoeksresultaten op het gebied van flexibiliteit. In de flexibiliteitsliteratuur zijn de antecedenten van en motivaties voor flexibiliteit behandeld, de wegen naar flexibiliteit onderzocht, en de relevante omstandigheden en de effecten van flexibiliteit in verschillende eindsituaties bekeken.

Hoofdstuk 3 begint met een discussie van de conceptuele tekortkomingen in flexibiliteitsonderzoek. Er wordt gewezen op het feit dat de processen en capaciteiten waarmee flexibiliteit zogenaamd kan worden behaald niet nader worden beschreven en vaag zijn. Op basis van de conclusie dat flexibiliteitsbeheer nog steeds slecht wordt begrepen, wordt een idee ontwikkeld van de manier waarop het concept van flexibiliteit zou kunnen worden gegrond in een theoretisch referentiekader dat gebaseerd is op de middelen- en vermogensbenadering. De voorgestelde conceptualisatie stelt dat de taak van managers om middelen toe te wijzen geen eenmalige onderneming kan zijn. Managers moeten continu beslissingen maken over deze toewijzingen en denken aan het ‘waar, wanneer and hoe vaak’ ervan om het inzettingspatroon te kunnen aanpassen. De mogelijkheid van het bedrijf om om te gaan met de externe omgeving hangt af van de manier waarop men het bedrijf herconfigureert om de inkomstenstroom gaande te houden. In aanwezigheid van onzerkerheid moeten bedrijven een verfijnde benadering hebben, en strategieën die bouwen op dynamische capaciteiten en flexibiliteit worden

voorgesteld als een veelbelovende benadering tot dergelijke omstandigheden. Gegeven het feit dat conceptualisaties van flexibiliteit en dynamische capaciteiten al veel te lang zijn beschouwd als losstaande onderzoeksonderwerpen ondanks hun substantiële overlap, integreert deze scriptie beiden onderzoeksstromingen. Er wordt een onderzoeksstrategie opgested die stelt dat flexibiliteit voortkomt uit organisationele capaciteiten. Flexibele bedrijven beschikken over een pakket capaciteiten waarmee zij proactief of reactief kunnen omgaan met nieuwe informatie. Het verkrijgen van flexibiliteit wordt beschreven als een aaneenvolging van snelle interne en/of externe hertoewijzingsprocessen en beslissingen om te (des-)investeren op operationeel niveau. Zodoende worden keuzes beschouwd als de kern van flexibiliteit. Dit maakt ook, indien gewenst, de vorming van zichtbare markthandelingen mogelijk als direct gevolg van deze processen.

De scriptie belicht de processen waarmee flexibiliteit wordt gecreëerd. Dit is belangrijk omdat veel onderzoeken de uitkomsten van flexibiliteit (met betrekking tot prestatie) meten onder de ongegronde veronderstelling dat processen die flexibiliteit genereren op operationeel niveau zouden moeten plaatsvinden, zonder deze processen nader te hebben bekeken. Er wordt een onderzoeksmodel gepresenteerd, dat bestaat uit: 1.) snelle hertoewijzingsprocessen, die de mogelijkheid om te reageren weerspiegelen; 2.) marktinzetprocessen, die de mogelijkheid om een actieplan toe te passen weerspiegelen, en 3.) prestatiegerelateerde resultaten om de effectiviteit van hertoewijzings- en inzetprocessen te kunnen peilen. Het proces van het organiseren en reguleren van de beschikbaarheid van situatie-specifieke middelen en capaciteiten is de grondslag van flexibiliteit. De suggestie is dat flexibiliteit gebruik maakt van capaciteiten om interne middelen te selecteren en die opnieuw toe te wijzen. Bedrijven worden als flexibel beschouwd wanneer zij dit op een tijdige en kosteneffectieve manier kunnen doen. Het blijkt dat het behalen van flexibiliteit bestaat uit hertoewijzingsmogelijkheden, die worden vergezeld door een gevoel voor de markt en het inzetten van middelen op de markt die van waarde zijn voor de klant. Hierbij maakt de scriptie voorzichtig onderscheid tussen de creatie van flexibiliteit en de inzet ervan op de markt. De conclusie is dat niet alleen de reconfiguratie zelf van belang is. De reconfiguratieprocessen moeten worden gecombineerd met het voornemen om marktgerichte beslissingen te nemen om zo de gewenste resultaten te behalen. Het ontwikkelde referentiekader bevat daarom ook markthandelingen en prestatiegerelateerde elementen. Dit is omdat de waarde van flexibiliteit alleen duidelijk is wanneer managers de gegenereerde opties omzetten in markthandelingen die sneller of toepasselijker zijn dan die van de concurrentie. Inzettingen zijn dus vereist voor de realisatie van flexibiliteit, en moeten zowel efficiënt en effectief zijn; en dit laatste is wat duidelijk wordt gemaakt met link met prestatiegerelateerde uitkomsten. Op basis van deze theoretische conceptualisatie van flexibiliteit worden er drie empirische onderzoeken uitgevoerd in de context van de voertuigindustrie.

Onderzoek I bestudeert de manier waarop bedrijven flexibel worden en blijven door te kijken naar de creatie van flexibiliteit door middel van uitbesteding. Het onderzoek toont aan dat bedrijven gebruik kunnen maken van de middelen van hun dienstverleners op de intra-organisationele grens om zo flexibiliteit te creëeren. Om de gevolgen van uitbestedingsgerelateerde hertoewijzingen op flexibiliteit te kunnen onderscheiden wordt er onderscheid gemaakt tussen marktondersteunende, marktgerichte en marktrakende functies. Zoals verwacht vindt de scriptie sterk bewijs voor de bevordering van flexibliteit door de hertoewijzing van middelen aan externe dienstverleners. Voor de uitbesteding van markt-ondersteunende functies is dit een belangrijke bevinding, omdat de bestudeerde bedrijven de operationele vrijheid die voortkomt uit de uitbesteding van niet-marktgerelateerde functies kunnen omzetten tot zichtbare markthandelingen. Wat betreft het uitbesteden van marktgerichte functies laat de verhoogde diversiteit aan markthandelingen zien dat het risico van uitbesteding te overzien is. Dit dient als antwoord op de vraag hoe de flexibiliteit die voortkomt uit hertoewijzingen aan externe dienstverleners zich toonbaar maakt op de markt. Marktrakende functies, echter, dienen niet te worden uitbesteed voor meer flexibiliteit omdat ze noch voor marktgerichte flexibiliteit zorgen noch voor prestatieverbeteringen. De scriptie levert ook bewijs voor het feit dat marktgerichte flexibiliteit voor een waardeverhoging zorgt door middel van een verhoging van omzet en klanttevredenheid. Als antwoord op de veelvoorkomende claim van schrijvers dat flexibiliteit niet los moet worden gezien van externe parameters behelst het model onzekerheid over omstandigheden als een onvoorziene factor. Het blijkt dat noch uitbesteding noch onzekerheid over omstandigheden het robuuste effect van flexibiliteit op prestatiegerelateerde uitkomsten (zoals klanttevredenheid en omzet) kan verminderen, zolang managers hun uitbestedingsstrategie maar baseren op marktgerichte en/of marktondersteunende functies. Al met al toont het onderzoek aan dat managers hun marktgerichte prestaties niet hoeven op te offeren wanneer zij gebruik maken van extra flexibiliteit afkomstig van externe partijen, omdat verstandige uitbestedingsstrategieën zowel marktgerichte flexibiliteit als prestaties kunnen verbeteren.

In tegenstelling tot onderzoek I, dat zich richt op een intra-organisationele manier van flexibiliteit creëren, behandelt onderzoek II inter-organisationele flexibiliteit waarbij bedrijven hun reservemiddelen inzetten. Bedrijven moeten niet alleen nauw letten op hun hoeveelheid ongebruikte human resource-middelen, maar ook op de plek waar hun ongebruikte bezittingen worden toegepast. Het onderzoek maakt een verbinding tussen hertoewijzingen van functies die klantwaarde ondersteunen en creëren aan de ene kant, en de marktactiviteit van bedrijven en de restwaarde van hun klantenbestand (welke is gebaseerd op het vermogen van klanten) aan de andere kant. Zodoende wordt er een bruikbare link naar prestatiegerelateerde resultaten gelegd die relevant zijn aan de aandeelhouderswaarde. Wat betreft de vraag op welke plekken ongebruikte HR-middelen zouden kunnen fungeren als een bron van flexibiliteit, raadt het onderzoek het af om reservemiddelen in te zetten in functies die de klantwaarde verhogen, met betrekking tot zowel negatieve flexibiliteit als op klantenvermogen gebaseerde restwaarde. Dit geeft

aan dat puur het bezit van middelen niet van waarde is voor het bedrijf of voor zijn klanten. Sterker nog, de voordelen van het in reserve houden van middelen voor eventuele onvoorziene situaties wegen niet op tegen de kosten, en dit manifesteert zich in de vorm van ongunstige marktactiviteit en negatieve gevolgen op de op klantvermogen gebaseerde restwaarde. Bedrijven die een redelijke hoeveelheid HR-reservemiddelen toewijzen aan waardeverhogende functies, echter, kunnen een teveel aan middelen gebruiken als een bron van reactieve, marktgerichte flexibiliteit. Dit ondersteunt de veronderstelling dat managers over het algemeen niet bang hoeven te zijn voor het hebben van reservemiddelen. Ze moeten ze slechts op de juiste plekken inzetten. Het inzetten van reservemiddelen in functies die klantwaarde creëren blijkt een goede bron te zijn van reactieve, marktgerichte flexibiliteit. Met het oog op de capaciteiten en mechanismen die bedrijven ertoe in staat stellen de flexibiliteit die inherent is aan reservemiddelen op een proactieve manier te gebruiken, bekijkt het onderzoek de mogelijkheid voor bedrijven om middelen opnieuw toe te wijzen. Gezien het sterke en positieve empirische verband tussen, aan de ene kant, reservemiddelen in functies die klantwaarde creëeren, en aan de andere kant marktactiviteit die wordt gemodereerd door de mogelijkheid om middelen opnieuw toe te wijzen, zouden managers moeten investeren in de verbetering van hun hertoewijzingen van HR-middelen. Dit zorgt ervoor dat reservemiddelen worden gebruikt voor de delen van de organisatie die het nodig hebben en veel in waarde kunnen groeien. Het onderzoek bekijkt het succes van bedrijven met het toewijzen van reservemiddelen aan de juiste plekken, alsook de manier waarop zij hun reservemiddelen omzetten in markthandelingen die de op klantvermogen gebaseerde restwaarde verhogen, en beschouwd klantwaarde-ondersteunende functies aan als ongeschikte plekken voor het toewijzen van reservemiddelen. Dit is omdat ze de algehele waarde van het klantenbestand negatief beïnvloeden. Het proactieve gebruik van HR-reservemiddelen, echter, blijkt de op klantvermogen gebaseerde restwaarde te verhogen.

Onderzoek III gaat over de vraag welke flexibiliteitstypes de verwachte restwaarde van het klantenbestand verhogen, en bekijkt dergelijke verbanden onder verschillende omstandigheden. Het onderzoek integreert intra- en inter-organisationele flexibiliteitstypes en ontdekt een empirisch verband tussen flexibiliteit en de langetermijnwaarde van het klantenbestand. Het toont aan dat financiële flexibiliteit als intern flexibiliteitstype een sterke en betrouwbare bron van waardeverhoging is. Managers worden geadviseerd van dit type flexibiliteit gebruik te maken onder tegenvallende omstandigheden, zoals onzekerheid over de situatie of druk van de concurrentie, hoewel dit niet helpt voor bedrijven die uitgesproken marktgericht zijn. Flexibiliteit in de distributieketen, een extern flexibiliteitstype, is ook een goede bron van klantwaardeverhoging voor bedrijven die met uitdagende omstandigheden te maken hebben. De resultaten wijzen tevens uit dat flexibiliteit in het dienstverleningsnetwerk geschikt is voor het verhogen van de waarde van het klantenbestand als er weinig concurrentie aanwezig is. Echter, wat betreft HR-flexibiliteit kunnen de meer márktgerichte bedrijven hun onderbenutte werknemers overplaatsen naar delen van de

organisatie waar meer werk nodig is, en zulke toewijzingen weer terugdraaien als dat nodig is. Het onderzoek toont aan dat HR-flexibiliteit geen verstandige investering is voor bedrijven die met moeilijke omstandigheden te kampen hebben, zoals sterke concurrentie of onzekere situaties. Al met al zijn de resultaten niet in het voordeel van één enkel flexibiliteitstype. In plaats daarvan profiteren bedrijven van zowel interne als externe flexibiliteitstypes, maar van elk onder verschillende omstandigheden.

Deze scriptie is een belangrijke stap voor het begrijpen van de processen die flexibiliteit generen en op een marktgerichte manier toepassen. Acht slaande op de vele manieren waarop het concept flexibiliteit kan worden benaderd, biedt de scriptie verschillende methoden voor het creëeren van flexibiliteit, die managers kunnen gebruiken om hun bedrijf flexibeler te maken. De scriptie toont aan dat zowel intra- als inter-organisationele bronnen de flexibiliteit van een bedrijf en de daaruit volgende prestaties kunnen verbeteren. Door de verschillende manieren van het creëeren van flexibiliteit te integreren beschouwd de scriptie de verschillende flexibiliteitstypes en hun toepasbaarheid niet als van elkaar gescheiden. In plaats daarvan vergelijkt de scriptie interne en externe flexibiliteitstypes onder verschillende omstandigheden. Merkwaardig genoeg is deze scriptie een van de eerste onderzoeken op het gebied van market en management die flexibiliteitsstrategieën verbindt met meer dan alleen het de traditionele manier van prestatiemeting - winstgerichte kortetermijnresultaten. Zodoende biedt de scriptie onderzoekers en managers hertoewijzingsadviezen die zijn gebaseerd op aspecten van waardeverhoging met betrekking tot zowel het bedrijf als de klant. De inzichten die worden geleverd door deze scriptie zijn belangrijk voor theorie en praktijk, omdat ze een op waarde gebaseerde legitimatie vormen van de creatie en het gebruik van flexibiliteit.